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REPORT

OF

THE COMMITTEE

ON ESTABLISHING A GENERAL

✓ New York
{ SMELTING & REFINING COMPANY

IN THE CITY OF NEW YORK.

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AUTHORIZED BY A MEETING OF OUR CITIZENS, AUGUST 28, 1851.



NEW YORK:

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At a Meeting held in the City of New York, on the 28th August, it was proposed, in view of certain statements and facts, then and there presented, to organize a Company, to be chartered under the laws of the State of New York, and to be called the NEW YORK GENERAL SMELTING AND REFINING COMPANY, to be located in the said city, with a capital of One Million of Dollars, to be divided into shares of Twenty Dollars each. A Committee was appointed to draft a Report for general circulation; and, in accordance with the views of the Meeting, they have prepared the following Report, which is respectfully submitted to the consideration of all who feel interested in employing their capital to advantage.

REPORT.

Your committee, after a thorough and careful examination, are convinced that the demands for a General Smelting and Refining Company in this country have become very great.

The vast mineral resources, which are just beginning as it were to be developed, naturally create a necessity for the increase of suitable facilities for smelting and refining ore. [Appendix A.]

This is a business which in other countries is carried on to an extent entirely unknown here, and realising immense profits to the parties engaged. [Appendix B.]

It is a business which is entirely safe in its nature, and beyond the reach of the ordinary embarrassments and risks attending general business. Its transactions relate simply to the purchase and sale of metals. It leaves nothing to uncertainties. [Appendix C.]

It is astonishing that capitalists who are daily watching and inquiring for safe investments, have overlooked this department.

Most of the stock associations are of that character as to require the entire expenditure of their capital, (and sometimes a great deal more,) before receiving any thing in return.

Such associations are often based upon abstract principles, by over sanguine persons, who usually anticipate more than they realise. After they have expended their millions on these projects, they wait in vain for sufficient to pay a small dividend, but it is too late. In case of a failure, all is lost.

Your committee are satisfied that this would not be the case with the capital of this Company, now under consideration, as there is not any thing of a speculative character connected with it ; and earnestly recommend to your consideration a few facts, which cannot fail to make it one of the most secure and profitable investments of the day.

The funds of the Company, in all cases, are secured by the metals and ores purchased, viz : gold, silver, lead, copper, tin, zinc, &c. They are bought by assay, in the following manner.

All gold dust, jewelry, plate, &c., shall be melted and bought by assay.

Gold and silver bullion shall always be assayed by the Company before purchase. All ore shall be tested and assayed before bought ; and not more than 50 per cent. of its real value shall be paid on delivery, until the whole is melted and ready for market.

The fluctuations of the finer metals, (gold and silver,) are so slight, that they may always be considered equal to cash on hand, for they can readily be converted into money at a premium, at any time.

The fluctuations of the inferior metals are greater than those of gold and silver ; yet they may at all times be considered as staple articles, and dealt in with safety.

Your committee are confident that a company properly organized, and disconnected from all mining operations, would prove successful, and pay to the stockholders a good and steady dividend.

No country in the world surpasses the richness of the United States in her mines ; but many are not successfully worked, for the want of knowledge, generally, and the right kind of establishments for smelting and refining.

Extensive lead and silver mines have been found in New York, Massachusetts, New Hampshire, Pennsylvania, Illinois, Missouri, Wisconsin, and Iowa. Copper is found in abundance, also large quantities of gold : and the amount from California is immense. [Appendix D.]

Some may ask, if the precious metals will not depreciate, if a large amount is brought into market : we would refer them for some interesting facts, to Appendix E.

Immense amounts of gold and silver are used annually in the manufacturing of jewelry.

[From the May No. of Hunt's Merchants' Magazine, folio 645.]

MANUFACTURE OF JEWELRY IN NEW JERSEY.

"A recent estimate," says the *Newark Advertiser*, "puts the number of manufactories at eighteen, employing 600 hands, whose average wages, including boys, amount to \$12 a week. The weekly product of manufactured articles is about \$35,000, or \$1,820,000 a year. In the manufacture of watch cases alone, about fifty hands are employed. In some manufactories chains are made, in others principally rings, while in others almost every article yet invented for the adornment of the persons of both sexes are manufactured. The gold used for the year past has been mostly the product of California, brought here assayed and in bars ; the precious stones forming a part of the ornaments are brought here from Europe ready cut for use. An erroneous idea, we understand,

is prevalent in relation to the increase of value of all the gold manufactured into jewelry. A large number of articles prove to be unsaleable and out of fashion, and when that occurs, they are re-melted and sent to the mint for coinage."

The business of manufacturing is carried on to a large extent in New York, Philadelphia, Baltimore, Boston, Providence, Attlebury, Newburyport, Hartford, New Haven, New Briton, Middletown, Jersey City, Brooklyn, Williamsburgh, and many large towns and cities.

Your committee desire to call attention to a few facts, from the report of the Secretary of the Treasury to Congress, from the 1st July, 1849, ending 30th June, 1850, as the question may be asked, if there is not danger of over-stocking the market.

We would reply, that there is not much danger, when we have to import from foreign countries such large amounts, and export so little, when our mountains are filled with mineral wealth, lead, copper, gold, silver, &c.

IMPORTS.

Copper in sheets, ore, &c.....	\$2,417,680
Lead in pigs, &c.	1,193,000
White and Red Lead,	43,756.

EXPORTS.

Copper and Brass,	\$435,325
Lead and Pewter,.....	35,479

We present the facts ; parties can draw their own conclusions.

If our mines were in the hands of English capitalists, they would soon turn trade the other way.

New York, April 16.—The iron market is heavy, and some sales of *Scotch* pig had been made at \$20—six months. New sheathing copper sells steadily at 21c., and yellow metal at 16½c.: old copper brings 19c. The market for lead had been active, but prices were lower. The sales were 5000 pigs soft American, at \$4.80, cash; 170 tons *English*, at \$4.75 to \$4.80; and 50 to 100 tons *Spanish*, at \$4.67½ to \$4.68¾, cash.

There is no better location for a general smelting and refining establishment in this country than in New York city, or its vicinity, as this, being the principal port of the United States, has innumerable thoroughfares by land and water, which renders it easy of access.

A few of the railroads we will mention, viz: the Hudson River Railroad, to Albany, and there intersects with railroads to the north, east and west. The north running to Grasse Point, Ogdensburgh, and thence to Montreal.

The Housatonic Railroad, through the Valley of the Connecticut, into Vermont.

The New York and New Haven, in connection with the Harlem Railroad, to intersect the Western Railroad, at Springfield, Massachusetts.

The Air Line Railroad to Middletown and Norwich, Connecticut, thence to Providence, in Rhode Island, and thence to Boston, Massachusetts; and, in that city, being intersected by railroads through Maine, Vermont, and New Hampshire.

Also, the Norwich and Worcester Railroad, uniting with the Nashua and Lowell Railroads, through Massachusetts and New Hampshire.

The New York and Erie Railroad, leading to the lakes, with its branches through Pennsylvania, New York, and New Jersey.

The Central Railroad, through New Jersey, to Easton, Pennsylvania, there intersecting some of the principal canals of that State, which will bring her mighty resources to our city.

The Morris and Essex Railroad, from Newark, New Jersey, through that State to the banks of the Delaware River: and another company are about to build it from that river, through the mineral regions of Pennsylvania, to Pittston, in Luzerne county; that, also, will develop the resources of that State in another quarter.

The great Southern Railroad, to Philadelphia, thence to Baltimore; at Baltimore, intersected by the Ohio and Cumberland Railroad, which will soon be finished to the Ohio River, where again a communication will be open with the States of Kentucky, Ohio, Tennessee, Indiana and Illinois.

The Pennsylvania Railroad, from Philadelphia, through to Lancaster, Columbia, Harrisburgh, to Pittsburgh, on the Ohio; also, all of the railroads running south from Baltimore to Washington, D. C.; thence through Virginia, North and South Carolina, Georgia, Alabama, and other Southern States.

Also, the Western Railroads, running through Ohio, Indiana, Illinois, Michigan, and soon into Wisconsin, and Iowa, to the banks of the Mississippi, where the iron horse will not be satisfied to tarry long; but his progress will be onward, through Missouri, to the Rocky Mountains, thence to the shores of the Pacific.

Tracks will soon be laid to the regions of the Lakes, Ontario, Erie, Huron, Michigan and Superior, for the mighty resources of these regions will soon be developed.

The natural terminus of all these vast lines of communication will be in the city of New York.

Your committee could not select a more central point. We speak of it, not only as being convenient, but the advantages resulting from low freights, tolls, and wharf-ages, as they are much lower than other cities; also, having free access from the east and west, north and south.

It is a well known fact, that the harbor of New York is one of the best in the world, on account of the perfect ease and safety with which brigs, schooners, ships and steamers, of the heaviest tonnage, can enter.

The town of Swansea, in Wales, is now the smelting shop of the world, but its harbor is subject to great inconvenience.

Extract from the Miner's Journal, published in London.

"SWANSEA HARBOR.—The trade of this port has long been subjected to great inconvenience from the bad accommodation afforded to the shipping. The River Tawe being dry, or nearly so, at low water, was ill-suited for the reception of the large vessels employed in the copper and iron trade, which had a direct tendency to increase the freights, and to prevent an extension of its commerce. These evils have been long seen and acknowledged; and few ports have had more fruitless schemes entertained, or more money and talk uselessly expended on them, than this unfortunate harbor. In the evidence on the Dock Bill in 1847, a highly respectable witness stated that the trustees had borrowed £99,000; that their credit was in such a bad state that they had advertised for loans without getting more

than an offer of £100, and that the proceedings of the trustees were distinguished by a want of unanimity, power and money. Under such an administration, it would have been unreasonable to have expected a wise and judicious expenditure of this large sum of money, which was literally muddled away; whilst the river, instead of showing signs of improvement, was daily getting into a worse condition than ever."

Your committee have no doubt, that if a company were established in this city, that we would have ores from all sections of this country.

Also, ores from Cuba, Jamaica, South America, Mexico, Canada, and gold dust from California: for the mineral resources of these countries are great, and they are near home. [Appendix E.]

Ores are sent from some of these regions, to Swansea, Wales.

"At Swansea, there have been arrivals from Coquimbo, Valparaiso, and Cuba; from the former one vessel brought 269 bars of copper, and 344 tons of regulus and copper ore."

"Messrs. Bath of Swansea, have received 403 tons of copper ore from Coquimbo."

"Until the year 1842, the town of Swansea, in Wales, possessed a monopoly of the copper trade, and is, up to this time, the great receiving and distributing copper mart of the world. The copper ores from Chili and Cuba, constituting, until the late Australian discoveries, the only sources of foreign supply to England, passed by our Atlantic ports on their destination to Swansea. Our greater proximity to these places gives us much advantage in the freights and quick returns, especially as regards the Cuba ores.

"England manufactures 25,000 tons of refined copper annually; the county of Cornwall alone furnishes ores for 12,000

tons; Ireland, North Wales, and Devonshire, for 3,000 more. Her own mines therefore supply 15,000 tons, and foreign mines 10,000 tons; which latter, in the form of ore, gives 60,000 tons of *tonnage* to British vessels. A considerable portion of this foreign trade has already been diverted to the United States by the enterprise and capital now employed in the copper-smelting business.

“Great Britain exports 18,000 tons of refined copper annually. India is her largest customer, France next, and then the United States. In the year 1844, we imported from England 2,145 tons of manufactured copper; in 1845, 2,219 tons; and in 1846, 2,171 tons—being over a million of dollars in value annually.”

Gold and silver have been discovered in Canada.

Mr. John Warwick has had silver ore from thence in considerable quantities, which has yielded very *richly*. [Appendix G.]

Large amounts of valuable ore have already been offered by the ton, which, in assaying, yielded from 70 to 80 per cent.

Smelters will tell you, that it is of great importance, and, in some instances, indispensable, to have ores from various quarters; as it is a well known fact, that all ores can be better smelted by mixing them with ores of other mines, and frequently with those of a different kind, as it makes them smelt more easily, and run more freely.

That is not all. By mixing ores from different sections of the country, a greater per centage of pure metal is obtained.

No doubt the cause of smelting in England being more successful than here, is, that they make it a business by itself, and mix their ores from various sources.

We would refer you to the appendix, to show in what manner the business is conducted in Swansea. [Appendix H.]

To show the immense extent of business that is done in ores, in Swansea, and Cornwall, we desire to call your attention to statistics of copper, lead, zinc, &c., and the government returns, taken from the Mining Journal, published in London, England. [Appendix I.]

We frequently hear, in this country, of mines being abandoned, which they have proved, by testing, to be rich; but failed, in all their efforts, to smelt them. [Appendix J.]

Your committee desire to call your attention to one important fact, viz., that we not only get metals from the ores, but can obtain other products from them. [Appendix K.]

It may be asked, by some, if we would not have to procure our fuel from abroad. We answer, no: as the following facts will show we have abundance of it in this country, and that of the very best quality. [Appendix L.]

Your committee would recommend, that the officers of the Association consist of nine TRUSTEES, one of their number to be elected PRESIDENT; a CASHIER; a SECRETARY; a REFINER; and an ASSISTANT REFINER, or ASSAYER.

These officers, in the employ of the Company, should be selected with great care, as regards their integrity and ability,—for the success of the Company almost entirely depends upon them. A good refiner and smelter, who has a practical knowledge of the nature and peculiarities of all kinds of metals, is indispensable.

The Cashier should have charge of the financial department, though always open for investigation to the Trustees and Stockholders, for they cannot always be present to direct, consequently, much responsibility must necessarily devolve upon him: he ought thoroughly to understand his business, for the best interests of the Company require it.

We may speak in like manner of the Assayer, and Assistant Assayer, whose business it is to conduct the assaying and refining of metals, ores, &c. They cannot be too prudent and careful; an error, of a slight fraction, on the assay, or button, which may occur, in many ways, without great care,—these little slight differences, in themselves, are of little account, but, when a bar of gold, valued at five or ten thousand dollars, is judged by it, it would amount to a sum worthy of notice. And the Company is responsible for all gold assayed and stamped by them.

Your committee, believing that the prosperity of the Company depends considerably upon the persons in their employ, do recommend, that they be selected with care; and make their situations permanent, during *good* behavior: pay them well for their services, so as to identify them, as it were, with the best feelings and interests of the Company.

Your committee, having received from Mr. John Warwick a written proposition, that he would deed over to the Company his extensive smelting and refining works, at Harlem, and take stock for the same, within a small amount of their value. He having over 35 years' experience in the business, and knowing that it would pay, if properly and judiciously conducted, a dividend from 25 to 33 per cent. per annum,—the Company always having

their capital stock on hand, either in cash, or precious metals.

Your committee visited Harlem, and examined his works. We find that they cover three lots of ground, between the railroad depot and 3rd Avenue, on 126th street. There is one large smelting house, with furnace for lead, and lead and silver ore; one large smelting furnace for gold and silver ore, sweeps, &c.; one large refining furnace, and stock; two large reducing furnaces; two melting furnaces, and shop; a first rate mill, capable of grinding a large amount of ore; with mill-house, stable, horse and wagon, harness, &c.; stock in furnaces, stock on hand, and every thing that is now on the premises, which is all in complete working order, and in operation. Also, capable of doing the following amount of work per week:

Smelting and refining

Ten thousand ounces of silver.

Five thousand “ “ gold.

Forty thousand pounds of lead ore.

Ten thousand “ “ sweeps.

Ten thousand “ “ silver ore.

If the Company, at any time, are desirous to enlarge their works, they can purchase three lots more, from Mr. Warwick, in the rear of his now present establishment, which lots are on 125th street, at a fair valuation, at the time the Company may wish to purchase.

The valuation to be decided in the following manner: Mr. Warwick to select one referee, the Company one referee, and the two referees to select a third referee, and their decision to be binding upon both parties.

Your committee are desirous that the Company shall distinctly understand, that Mr. Warwick wishes to have no more to do with the smelting and refining works than any other stockholder, as he will deed it over to the Company, so that it will be their property, and under their control.

The works are so situated that the access to them by water is easy, being about 200 yards from the wharf, and about 100 from the railroad depot.

Your committee would recommend, that Mr. John Warwick's proposition be accepted, believing that it will be for the best interest of the Company, as the works are already established, and the Company can have immediate possession, and go into operation forthwith, avoiding that delay that the erection of new buildings and the testing of new furnaces would occasion.

The services of Mr. John Warwick can be procured, as superintendent of the works, for the Company, whom your committee believe to be one of the most able and practical refiners and smelters in this country. [Appendix J.]

We would recommend that the capital of the Company be one million of dollars; the shares put at twenty dollars each; and that the Company go into operation when fifty thousand dollars are paid in.

In conclusion, your committee, after making a thorough examination of the business, and looking at it in all of its various bearings, have no hesitation in saying, that if it is carefully and judiciously conducted, it will pay a sure and steady dividend of from 20 to 33 per cent. per annum; and that the Company will always have their capital on hand, either in cash or precious metals. And we also believe that hard times will not materially affect

us, as there will be sufficient for the Company to do, for it will lead the people to examine into the mineral resources of our country, and bring to market valuable ores that are now buried in the mountains.

FELIX A. FINN,	}	COMMITTEE.
J. INGHAM PERRY,		
JAMES CONNER,		
JOHN W. RICHARDSON,		
E. B. BAILEY,		
ALFRED WILLIAMS,		
WM. H. BIGELOW,		
H. P. KENNADY,		
GEO. P. MILNE,		
JOHN SHAW,		
JOHN H. SMITH,		

New York, 11th Sept., 1851.

Other information will be cheerfully given by the committee, on applying at the office of John Warwick, Esq., No. 17 John street, New York city.

APPENDIX.

[A.]

Extract from the Mining Journal, published in London.

MINING IN THE UNITED STATES.

In a former Journal we incidentally expressed ourselves at a loss to imagine how the Americans dress or ship their ores, judging from the statements made concerning the immense masses of ore, some weighing 5000lbs., 4900lbs., &c., we read of as being brought down Lake Superior for shipment. A correspondent, under date New Jersey, Dec. 19, has forwarded some particulars, which will be interesting to many of our readers. He confesses that he was equally doubtful on this point, but having business frequently in Philadelphia, he availed himself of the opportunity to call at some of the mining offices, with a view to see some of the specimens referred to in the reports published in the American newspapers. On the 9th Dec., he says, "I called at the North-West Mining Office, where I saw a specimen of native copper, weighing 2544 lbs., which specimen you are likely to see at the 'World's Fair' or Great Exhibition, together with other fine specimens, the like of which I never saw before. One was a chip from one of the masses, rolled out some yards in length, a part of which I enclose for your inspection and judgment. As to the quality of the large masses referred to in your paper of October 12, I have never seen or heard of any ores sent down from Lake Superior, although I believe there are some there—all I have seen has been native copper. Some specimens of the stamps' work were also shown, with some of the produce of the stamps—small lumps, weighing from one $\frac{1}{4}$ oz. to 1 lb., likewise some very fine, but clean from rock. After seeing such fine specimens, and hearing the reports of several Cornish miners on the mines on the Lakes, I am disposed to think that the

accounts are not exaggerated. A letter in my possession from the Cliff Mine states that they are now sinking under the 300 ft. level, with scarcely any water, and the mine looking as rich as ever, and that several of the other mines are looking well. Another letter I have received from a Cornishman, near Baltimore, says there were 18 men employed altogether; the mine is 220 feet deep, and 70 feet long; the lode or vein varies from 2 to 10 feet wide, in which they have three shoots of ore, yielding from 15 to 18 tons per month—produce from 15 to 30 per cent. A small steam-engine of 6-horse power was sufficient to draw all the water and stuff, with a consumption of 4 cwts. of coal per day. Now, if this mine were extended considerably, both in length and depth, and the ore stoped from the backs of the levels, instead of working all downwards to the level of the water, according to present prospects, it would turn out a rich mine. There is another mine about 22 miles from Baltimore, which I inspected a short time since, which looks very promising, producing large quantities of gossan, and rich specimens of copper ore. The company by whom it is worked are wealthy and highly respectable; they have erected a powerful water-wheel, and sunk their shaft 120 ft. under the old workings, which has drained the lode so as to enable them to sink and drive on the course of it from the said workings; and the result is, that five men, in 15 days, have laid open from \$15,000 to \$20,000 worth of ore, with a fair chance of turning out a much larger quantity. I inspected another mine within 20 miles of Philadelphia, about two years since, where they have raised about \$70,000 worth of copper ore in a brief period, all above a 300 feet level, and in a short distance lengthways the lode was regular, and produced fine gossan, equal to any I have seen in England: although this mine is not rich, yet I believe if they prosecute her properly, the company will be remunerated for their outlay. At Valley Forge, about three miles from the latter mine, Capt. Thomas Petherick, well known from his judgment and ability in Cornwall, is now about to erect a low-pressure steam-engine on a very promising mine, with every chance of success. There is also a lead mine not far distant from Valley Forge, which is, I understand, working profitably. I might go on to enumerate other mines in which the operations are on a small scale, but which, if worked with spirit, would, I have no doubt, make good mines at an easy outlay. The mine in which I am engaged is not rich, but I have

driven through some rich bunches of ore, and, from what I have been able to ascertain, \$30,000 worth of ore has been raised from it, all above the 70 feet level. We are now driving at a 200 feet level to cut the lode west, with a fair chance of success.

“*Mining in this country may be considered in an infant state, as the deepest mine is only 300 ft., and many of the mines are under the management of parties whose experience and knowledge of these matters are very limited. Nevertheless, capitalists are beginning to look at mining as a matter of business, and not of jobbing, as has been hitherto too much the case; and should the operations of the different mines continue to go on as steadily as they have done during the past year, the quantity of native copper ore obtained on Lake Superior, as well as the ore raised in the Atlantic States, will, I fully believe, be next year increased one-half.*”

[B.]

STATISTICS OF COPPER, LEAD, AND TIN.

With the expiration of the terminal quarter of 1850, and the introduction to another year, we proceed to lay before our readers the results of the periodical sales of copper ores by public ticketing in Cornwall, and at Swansea; as those also of lead and tin, the quantities of the two latter descriptions of minerals the nearest to accuracy it has been in our power to obtain. The quantity of Cornish copper ores sold during the past quarter has been 39,343 tons, realizing £210,122 7s. 6d., being an average price of £5 6s. 9 $\frac{3}{4}$ d. on a produce of 7.887 per cent., and requiring 12 tons 14 $\frac{1}{4}$ cwts. to produce a ton of fine copper. As compared with the returns of the quarter ended Sept. 30 last, the result is as follows:

	Copper Ore.	Fine Copper.	Amount.	Av. Price.
Dec. 13, 1850, <i>Tons</i>	39,343.....	3103 9.....	£210,122 7 6.....	£5 6 9 $\frac{3}{4}$
Sept. 30, “	38,394.....	3104 13.....	204,191 8 6.....	5 6 4
	<hr/>	<hr/>	<hr/>	<hr/>
Increase	949	Dec. 1 4	Inc. £5,930 19 0	Inc. £0 0 5 $\frac{1}{4}$

Showing an increase in quantity of 949 tons, and in money £5930 19s.; while, with a slightly reduced per centage in the produce, there has

been an increase in the average price of nearly 6d. per ton. As compared with the corresponding quarter of 1849, the result is as follows:—

	Copper Ore.	Fine Copper.	Amount.	Av. Price.
Dec. 31, 1850 ..	<i>Tons</i> 39,343	....3103 9	...£210,122 7 6	.....£5 6 9 $\frac{3}{4}$
Dec. 31, 1849	36,508	....2810 2	....193,444 11 6	.....5 5 7
	<u>Increase 2,835</u>	<u>293 7</u>	<u>£16,677 16 0</u>	<u>£0 1 2$\frac{3}{4}$</u>

The total amount of sales of Foreign, Irish and Welsh ores, by ticketing at Swansea, was 9143 tons, realizing £114,005 7s. 6d., being an average price of £12 9s. 4d. per ton. The following is a comparison with the previous quarter:—

	Ore.	Amount.	Average Price.
Dec. 31, 1850	<i>Tons</i> 9,143	.....£114,005 7 6	.....£12 9 4
Sept. 30, 1850	12,590	.....180,415 4 6	.....14 6 7
	<u>Decrease.....3,447</u>	<u>£66,409 17 0</u>	<u>£1 17 3</u>

And with the corresponding quarter of 1849, as follows:—

	Ore.	Amount.	Average Price.
Dec. 31, 1850.....	<i>Tons</i> 9,143	.....£114,005 7 6	.....£12 9 4
Dec. 31, 1849.....	11,212	.....157,694 0 6	.....13 11 10
	<u>Decrease.....2,069</u>	<u>£43,668 13 0</u>	<u>£1 2 6</u>

The above quantity of ores was made up as follows:

	Ore.	Amount.	Average Price.
Foreign	<i>Tons</i> 6692	.....£97,980 11 0	.....£14 3 11
Irish.....	2168	.....15,479 2 0	.....7 2 9
Sundry ores and slags...	283	.....545 14 6	.....1 18 7
Total	<i>Tons</i> 9143	.....£114,005 7 6	.....£12 9 4

The above amount of foreign ore was from the following places:

	Ore.	Amount.	Average Price.
Cobre.....	<i>Tons</i> 3359	.....£48,680 9 6	.....£11 9 8
Cuba	1662	.....18,833 13 0	.....11 6 7
Chili	421	.....9,970 13 6	.....23 13 8
Copiapo.....	433	.....9,042 2 0	.....20 17 7
South Australia	273	.....7,591 4 6	.....31 9 4
Spanish	225	.....1,503 18 6	.....6 13 8
New Zealand.....	126	.....1,470 0 0	.....11 13 4
German	193	.....888 10 0	.....4 11 6
Total	<i>Tons</i> 6692	.....£97,980 11 0	.....£14 18 9

And the Irish from the following mines :—

	Ore.	Amount.	Average Price.
Berehaven	Tons 1289.....	£9997 8 6.....	£7 15 1
Knockmahon	720.....	4514 13 6.....	6 5 5
Ballinoe	25.....	173 2 6.....	6 18 5
Kildnanne	29.....	167 9 6.....	5 15 2
Dylife	21.....	165 7 6.....	7 17 1
Molony	8.....	112 8 0.....	14 0 0
Manx	67.....	101 14 6.....	1 10 5
Tigrony	3.....	84 15 0.....	28 5 0
Cronebane.....	3.....	84 3 0.....	28 1 0
Ballymurtagh	3.....	78 0 0.....	26 0 0
Total.....	Tons 2168	£15,479 2 0	£7 2 9

The above quantities of copper ores were purchased as follows :—

Companies.	Cornwall.				Swansea.				Total.			
	Tons.	£	s.	d.	Tons.	£	s.	d.	Tons.	£	s.	d.
English Cop. Co.	—	—	—	—	1232	16,990	18	11	1232	16,990	18	11
Mines Royal	8382	19,556	10	6	484	6,825	5	9	3866	26,381	16	3
Vivian & Sons...	6908	31,577	12	10	1644	18,080	15	0	8547	53,658	7	10
Freeman & Co. ..	4705	24,226	5	3	341	2,519	10	10	5046	26,745	16	1
Grenfell & Sons..	6581	33,832	12	6	1309	14,877	10	11	7890	48,710	3	5
Crown Cop. Co. ..	745	4,301	8	9	—	—	—	—	745	4,301	8	9
Sims & Co.....	5321	27,452	15	5	635	9,032	14	0	5956	36,485	9	5
Williams & Co. ..	8407	50,022	11	0	2486	28,582	6	7	10893	78,604	17	7
Schneider & Co...	3299	15,152	11	3	203	4,216	10	6	3502	19,369	1	9
Mason & Co.	—	—	—	—	716	11,155	0	3	716	11,155	0	3
British & For. Co.	—	—	—	—	93	1,724	14	9	93	1,724	14	9
	39343	210,122	7	6	9143	114,005	7	6	48486	324,127	15	0

[C.]

Extract from the Mining Journal.

TIN AND COPPER SMELTING.

A correspondent expresses much satisfaction at the fact of Mr. T. Boundy having commenced the erection of a tin smelting-house near Swansea, as noticed in our last, believing that considerable advantage will accrue to all parties interested in tin mines. He further suggests the desirability of some spirited party interested in, and connected with, copper mines in Cornwall establishing a totally independent smelting-works

near the same place, where coal can be obtained at a low price. The benefit to large mining companies, he considers, would be very great, as, after expending large capital, and running all the risk of a return, they are fully entitled to all the benefits arising therefrom; whereas by the present system the smelters obtain a certain and by far the largest share of the advantages without any risk.

Messrs. Williams, Foster & Co., of the Morva Works, have in their extensive smelting establishment, 620 men constantly employed.

[D.]

From the April No. of Hunt's Merchants' Magazine.

COPPER AND IRON MINES OF LAKE SUPERIOR.

We learn from a statement of the *Detroit Free Press*, that the amount of Copper brought from the mines of Lake Superior in 1849, was eleven hundred and fourteen tons. The amount shipped in 1850 exceeded four thousand tons, and that to be shipped during the present year will be sufficient to supply the whole consumption of copper in the United States, which is a little over six thousand tons.

The amount of ore which had been raised on the shores of Lake Superior up to December, 1849, exceeded thirty-seven thousand tons. This ore will, in the opinion of competent judges, average twenty per cent of pure metal, so that even this amount, if reduced and taken to market, would this very year supply the United States. The copper ore from the mines in Cornwall, in England, for thirty years past, has yielded but about eight per cent of pure metal.

There are now, including the two iron companies on Carp River, in the vicinity of the celebrated iron mountains, twenty-four organized companies in active operation. Their mines have been purchased of the government, and they employ at this time eight hundred and thirty men. The iron companies referred to are prepared to melt and ship the coming season twenty-seven hundred tons of pig iron. Much is said of the superior quality of this new product of Michigan, its remarkable

malleability peculiarly adapting it for boiler iron, wire, and machinery, and even in its crude state, owing to this fact, it readily commands the highest market price in Pittsburg.

From the August No. of Hunt's Merchants' Magazine.

COPPER MINES OF LAKE SUPERIOR.

The following "facts and figures" of the Lake Superior Copper Mines, are derived from an article written by J. T. HODGE, Esq., mineralogist of New York, for the *American Railroad Journal*.

Although the mining operations of the Lake Superior region were greatly increased the last year, the amount of copper shipped fell short of the estimates that had been made for the production of the season. This was owing to several causes—the principal one of which was the want of stamp-mills to prepare the fine copper. This, at the different mines not provided with the machinery for dressing, necessarily remained behind. This was the case especially at the *Minesota*, the mill not being quite ready up to the close of navigation. The only mills in operation were those of the Cliff Mine, North American, and North-west; and that their shipments were not so large as anticipated is to be explained by the unusually late period that the navigation remained open in the fall of 1849, thus enabling them to ship off in that year what was calculated upon for the next; and also to the mines themselves not being so well opened in advance for stopping, as was supposed; hence this work could not be so extensively carried on through the summer. The *Minesota* Mine especially was greatly put back by the necessity of taking up the floor of the lower level, in consequence of an error in the laying out of the work. In no instance, that we are aware of, have the mines that were counted upon to produce the amount estimated, failed in consequence of want of sufficient copper. On the contrary, this has been found more and more abundant; and several new mines are now in operation, which, during the present year, promise to make no small addition to the production of the copper region. The only new one which made a shipment the last year was the Forest, on the west side of the Outanagon, opposite the *Minesota*. The amount of this was 9,867 lbs., in masses and barrel work, which yielded 54 per cent. This is the largest quantity that has been shipped by any mine the first year of its operations, with

the exception of the Minesota. The stamp work is on hand ready for the mill, which will be built this summer.

The following table exhibits the receipts from the different mines at the Sault during the year :—

Receipts of Copper at Sault Ste. Marie from the Lake Superior Mines during the year 1850.

	Barrels of barrel work.	Barrels of stamps.	No. of masses.	Total.	
				Tons.	Lbs.
Cliff.....	883	779	401	709	48
North American.....	115	220	28	128	1,222
Minesota.....	70	4	110	103	651
North-west.....	115	96	114	129	1,164
Siskowet (Isle Royale).....	30	...	33	19	394
Forest.....	16	...	5	5	1,693
Copper Falls.....	7	...	...	2	1,676
Pittsburg and Isle Royale.....	6	...	11	5	57
Total.....				1,103	905

We are not furnished with the per centage that the shipments yielded. The North American, however, did not equal in richness what had been before sent from this mine, and judging from what we saw of the Cliff copper, we should not suppose this to be equal to the copper of the previous year. The published yearly report of this mine we have not yet been able to obtain. The following data we extract from the *Cincinnati Gazette* :—

“The dividend of the year is announced at 10 per cent. The product of the year was \$176,129; expenses, \$116,855, including the cost of a new steam-engine, transportation of it, etc. The No. 1 shaft has been sunk to a depth of 310 feet, and No. 2 to 351 feet. This mine has been worked since 1847, and with an average number of miners of about 60. The total product of the mine up to 1st December, 1850, has been \$658,310. The capital stock paid in is \$110,905, upon which in three years \$204,000 dividends have been paid.”

The population of the mining district has increased till it now numbers about 2,000, most of whom are laborers. These are insufficient for the demand, and labor commands as high a price as in any part of the country. Facilities for reaching the mines have been greatly increased, and transportation of freight is now at less rates than have before obtained. At each of the mines more or less land has been cleared, and the crops of potatoes, hay, oats, etc., have been very abundant—still, however, far from supplying the demands of the population. The reputation of the

climate for salubrity and the restoration of invalids, especially of consumptives, is now well established, and the region is becoming a place of resort for other objects than those connected with the mines.

In this communication, we will not undertake to notice all the mines which are now in operation. On Keeweenaw point, as well as on the Ontonagon, many new enterprises were undertaken the last year, some of which we shall, as opportunity offers, describe with some minuteness of detail. Of these, the most prominent on Keeweenaw Point are the following:—*Copper Falls*, which after languishing for several years, has now made a great start by the discovery, last fall, of a new vein with extensive ancient works upon it. The discovery was made by Mr. S. W. Hill, who is now directing the operations there. The *Eureka*, *Zeolite*, *Phoenix*, *North Western*, *Iron City*, and *Cape* are all actively prosecuted, and have all taken out more or less copper; but none of them are provided with stamp-mills. Near Portage Lake some new operations have been carried on during the winter, of the success of which we know nothing. In the Ontonagon region we understand that the *Forest*, *Farm*, *Adventure*, *Aztec*, *Ridge*, *Peninsula*, *Norwich*, and *Trap Rock* have all copper ready for shipment. Neither of these is furnished with a stamp-mill. The country is covered with squatters, who have secured pre-emption rights to all the promising tracts on the mineral range, not otherwise taken up.

From the Miner's Journal.

THE COPPER REGION OF LAKE SUPERIOR.

SIR,—I arrived here (the copper region of the world) about 12 months since, and have been endeavoring to get up a statistical account of things relating to this wonderful country for your Journal; and though I have not yet been able to get all I want, I shall shortly succeed in completing my task. In the meantime, I will give you a brief outline of it. In the first place, the copper region embraces an extent of over 200 miles in length, by some two to five or six miles wide. The veins are innumerable, running parallel to each other, and in many instances not many yards apart—the whole of which lies in a band of trap-rock, forming considerable high bluffs. The copper is all native, or pure cop-

per, mixed with large pieces of pure silver of many pounds weight, and is found partly in small particles, mixed up in the veinstone, which is their stamp-work, and partly in masses, varying from 1 lb. to 200 tons. These large masses have to be taken out by excavating all round, and cutting them up by cold chisels and hammers, in sizes suitable for getting to surface. The copper reaches to the surface, and, in some places, protrudes through in masses. The veins are very regular, and require but little research to follow them for many miles. The copper is the purest known. Nearly all the mineral lands are now taken up. I have got one tract of mineral land of 2880 acres, with nine splendid copper veins, on which I am driving cross levels to intersect them. The veins lie along the bluffs.

Several other veins have also been discovered; but these alone are more than sufficient, and for which a company has been formed, who are now working it. It consists of 20 shareholders, and is divided into 10,000 shares, at \$1 each, which are now worth \$5 per share.

Another location consists of 160 acres, with numerous veins, one silver. The veins on this location, instead of lying parallel with the bluffs, crop or end out on one of the highest bluffs in this vicinity. It has been named Prospect Bluff, from whose summit Lake Superior, 18 miles distant, can be seen. The levels here may be commenced at once on the vein, and driven from the foot of the bluff direct on the vein. The saving will be immense, as it will not require either pumps, whimseys, horses, nor anything save driving and wheeling out. There are splendid streams for stamps, boating, &c. This last tract would be worth in England £100,000; but it could be procured for £4000.

W. K. C.

Ontanagon, State of Michigan, Lake Superior, May 27.

MINING ON LAKE SUPERIOR.

The intelligence from the copper mines of Lake Superior represents the mines as doing well this year,—1500 tons of ore having been shipped, of which the Cliff Mine, the largest undertaking in that region, supplied 800 tons. One of the greatest expenses experienced in getting the copper ready for shipment is the cutting of it up into moveable masses, which is effected by a tedious

process with hammer and chisel. Various have been the expedients devised to facilitate this operation; machines have been rigged in various ways, and at great expense, to saw the blocks, but the copper is so mixed with stony particles that the saws cannot be made to work. The miners are now about trying a new plan; they are constructing a gigantic furnace to melt the masses and cast them into such pieces as can be handled. Should they succeed in this operation, the expenses of mining will be very materially lessened. The traces of ancient mining continue to be found in great number and extent, and these prove of great service to the present workers, by directing them to the best locations, and by presenting to the miner excavations which could only be effected by a vast amount of labor. The people on the spot estimate their age at 2000 years at least, but nothing has been found to trace their connexion with any existing race, except the bare fact that the copper mined was carried off by way of St. Mary River and the lakes; and this is only presumed to be determined by detached portions being found along the route from the mines to Ste. Marie. An analysis of the ore brought down by one arrival at Quebec shows the per centage of copper on the average of the cargo to be 15·78 per cent.—*Daily News*.

MINES OF LAKE SUPERIOR.

The latest accounts from Lake Superior represent the mines as in a good state of prosperity: 1500 tons of copper have been shipped, 800 of which were from one mine. Speculative operations had ceased, and every organised company had fixed upon a location, and was doing an active business in getting out copper. Traces of ancient mining continue to be found which prove of great service to the present miners, directing their attention to the most feasible spots where excavations have been made, which could only be effected by arduous toil. These are supposed by the population to be at least 2000 years old. Nothing has been found, however, to show their connexion with any existing race; although it appears that the copper found was taken off by way of St. Mary's River and the lakes, from the detached portions which have been found on the road between the mines and St. Mary's. The whole distance between Green Bay and Lake Superior presents a delightful tract of country

abounding in all the means of wealth and prosperity. Clear and beautiful lakes, with plenty of large trout and other fish, are found at convenient intervals. Water-power is abundant. The timber, consisting of maple, beech, oak, and pine, is of a superior quality. The land has a sufficient variety of surface, and is susceptible of easy cultivation. A few roads will open this country to the industrious emigrant, and it will soon present the spectacle of villages, schools, mills, cultivated farms, and every industrial pursuit which is now followed in the southern portions of Wisconsin and Michigan.

From the Philadelphia Ledger, July 10th, 1851.

THE LEAD AND COPPER MINES OF PENNSYLVANIA.

We resume our notices of a few of the mines in the vicinity of Valley Forge visited during a day's ramble in that romantic neighborhood. The Chester County Mine is situated on the Pickering creek, about a mile and three quarters from Phoenixville, and adjoins the tract so successfully worked by C. M. Wheatley, (alluded to in our previous article.) It has been worked under the superintendence of Denby Sherwood, Esq., for nearly a year, during which time a drift has been run on the vein for about 800 feet, at a depth varying from twenty to sixty feet from the surface. During the entire length of this drift, a regular vein has been found carrying lead ore. From the back of the drift between four and five hundred tons of ore have been raised to the surface, at a cost for mining and raising of about \$1.12½ to \$1.25 per ton. It is estimated that there are still remaining in the drift from two to three hundred tons additional. In cutting the adit, which drains the mine at the present working level, two other lead veins were discovered varying little in size and richness to the one being worked. One is a beautiful gray and yellow copper ore. Excavations have been made to within a few feet of the vein worked by Mr. Wheatley, which also passes through the tract of this company. An engine shaft is being sunk, which has already extended to the depth of 140 feet. From this shaft a cross cut is making to the vein, sixty feet below the present working level. To keep the shaft free from water, they are running a fine sixty-horse engine, built by James T. Sutton & Co., of the Franklin Works, Kensington.

A large portion of the ore taken out near the surface is carbonate and phosphate of lead, which has heretofore been deemed very difficult to smelt, and from the entire failure of success in the various efforts made to smelt it in this country, the previous working of a neighboring mine was abandoned. The Chester County Company, about three months since, contracted with Mr. John Warwick, of New York, to superintend the smelting and desilvering their ores.

On the opposite bank of the Schuylkill River are the extensive works of the Perkiomen Consolidated Mining Company, which has a capital stock of \$300,000. This is a copper mine, and the operations are under the superintendence of C. M. Wheatley, Esq. The principal shaft is 300 feet deep, having in it a Cornish steam engine of 100 horse power, imported from Cornwall, and put up under the direction of Mr. John West. There are in all four shafts, one of which is for the purpose of ventilation, and the others for the various engines required. One is a hundred horse power pumping engine, built by J. T. Sutton & Co., Kensington; there are also two whim engines for raising the ore to the surface, and a small pumping engine of fifteen horse power. There are five different levels worked in this mine, on one of which at twenty fathoms depth, the excavations extend 1000 feet, and on the various levels there are in all about 2000 feet explored. About 1000 tons of ore have been produced from this mine and sent to Baltimore and New York, where there are smelting furnaces. To smelt the copper with advantage, various qualities and descriptions of ore are required, so that the products of the mines in this neighborhood are sent to various points. Philadelphia as yet possesses no smelting furnace, though there is such rich developments constantly making in her vicinity. There are now about one hundred tons of copper ore ready for shipment from this mine, which will yield from eighteen to thirty per cent. of copper.

DISCOVERY OF A SILVER MINE IN PENNSYLVANIA.

Little more than a year ago a lead mine was discovered near Phoenixville, Chester county, in this State, and the Legislature last year chartered a company to work it, under the title of the "Chester County Mining Company," with a capital of \$80,000, divided into 16,000

shares, equal to \$5 per share. It was subsequently discovered that what was supposed to be only a lead mine was much more largely a silver mine, the value of the silver found mixed with it being much greater than the value of the lead, though the latter metal is said to be of a very superior quality. We learn that the amount of silver-lead ore raised and dressed, or in course of dressing for smelting, is estimated at 300 tons. The stock of the company has recently been brought on the market, and is already selling at over 100 per cent. on its par value.—*Philadelphia Ledger*.

DISCOVERY OF A CURIOUS LEAD CAVE IN IOWA.

A discovery has been made in Dubuque, Iowa, of a cavern, 15 feet wide, from 12 to 15 feet high, and 1800 feet long, the side walls and roof of which is covered with lead ore in a nearly pure state. One mass is 48 feet long and about 3 feet square. There are two sheets of ore hanging down from the top, about 60 feet long and from 6 to 7 feet in thickness, of a purely snow-white color. It is believed that the cave will yield \$20,000 worth of the mineral.—*New York Sun*.

COPPER AND LEAD MINES OF PENNSYLVANIA.

The *Philadelphia Bulletin* gives the following account of some mineral discoveries recently made in Pennsylvania:—

“We are gratified to learn that an extensive copper and lead formation has been discovered in this State, near the Schuylkill River, and only about twenty miles from the city: and the extent of the mineral is, from present appearances, such as to warrant the expectation of a very large business arising out of it. Some of the veins have been successfully worked within the past year. The copper ore is said to bear a striking resemblance to that of the Cornwall and Cuba mines. The average yield of 2,000 tons has been 20 per cent of pure copper. The lead and silver ore, which is also abundant, has been assayed, and carries about 75 per cent. of lead, and will yield of silver about \$35 to the ton. The Perkiomen mine, which is near the newly discovered veins, has been worked to the depth of about 300 feet, and more than a quarter of a

mile in length—\$64,000 have already been received for ore, and about 400 tons more have been mined, but not yet sent to market. This, with the new veins, gives evidence of a field of mineral wealth which promises to add to the fame of Pennsylvania as the greatest mineral region in the world.

We congratulate the country upon these discoveries. Even with our Lake Superior mines, we are still importers of copper to a very large extent; but the fact that a rich bed of copper, of great extent and inexhaustible supply, exists within twenty miles of our metropolis, and close to a railroad and canal, goes to show that we shall not be importers much longer. The English copper mines have for years yielded an annual product of \$7,000,000. The Pennsylvania copper region, when properly developed, can exceed this, for its extent is greater, while the per centage of metal, which in England averages but 8 per cent., is in Pennsylvania 20 per cent. We shall look with interest to the further development of this new source of wealth in Pennsylvania.

A SILVER MINE IN VERMONT.

The *Chronotype* says, that a bed of silver and copper ore has been discovered about three miles southeast of the village of Brandon, Vt. The ore is incorporated with milk quartz and argillaceous slate. An average specimen analyzed by W. H. Sheppard, mineralogist, gave 31.13 per centum pure silver, and 17.09 of copper. Messrs. Chapin, Mandslay & Stewart, have undertaken to work the mine.

A SILVER MINE IN VIRGINIA.

The Charleston (Va.) Spirit of Jefferson says that a silver mine has been discovered on the farm of Messrs. James and Dennis McSherry, of that county, situated on the east bank of the Shenandoah River, and at the base of the Blue Ridge Mountain. The mine was discovered some months since, and a small specimen obtained and forwarded to the Philadelphia Mint to be assayed. The Superintendent of the mint has returned the same, made into a ten cent piece, and pronounces the ore as exceedingly rich. The ledge of rocks in which the ore is impregnated,

is of immense size. Every three pounds of rock, it is estimated, will yield one dollar in silver. Arrangements have been made for at once mining.

MINERAL RESOURCES OF VIRGINIA.

The *Merchants' Magazine* has ever regarded Virginia as one of the very first States of the Union as regards her mineral wealth; and her climate and soil are capable of producing, perhaps, a greater variety of products than any other region of our common country. The *Richmond Republican*, thus comprehensively sums up the mineral resources of Virginia:—

Lead is found in abundance, and also plumbago in several places east of the Blue Ridge. Besides the immense salt regions of Kanawha, there are in south-western Virginia inexhaustible stores of this valuable mineral. The salt water found in Washington county is stronger than that of any other county. Fossil-salt, the largest, if not the only, deposit of the kind discovered in the United States, is found near the salt hills above noticed, and has been bored into at least fifty or one hundred feet, and without going through it. Gypsum, or plaster of Paris, of the purest kind, exists in great abundance in connection with the fossil salt. There are many deposits of iron ore, from which refined and hammered iron can be made, which will rival the best productions of Russia and Sweden. Porcelain clay, as fine as any in France, is found near Farmville, and in other sections of Virginia. The granite of Richmond is equal in quality and beauty to any in the United States. The slate on Slate river is better than the Welsh, being harder, stronger, and more free from earthy matter. Marble and soapstone abound in many parts of the State, of good quality and in great variety. Water lime, or cement, is found on the James river of very superior quality, and has been found to be decidedly superior to the best English. In the same region limestone of the purest quality also abounds. There are also great quantities of fire-stone and fire-clay on James river and near Richmond. Gold, coal, and copper are found in abundance east of the Blue Ridge. Besides the coal of the east and the south-east, the Kanawha region possesses an inexhaustible supply. An enormous vein of canel coal has been discovered within a year

or two past in Kanawha. This is the most beautiful and valuable of all coal. It is also alleged that wool grown in Virginia, from the best improved sheep, is better in many cases than the finest Saxony, and rivals the best Australian production. It is believed that the climate of Virginia is superior to that of either of those countries for the production of the finest wool.

*From the Report of the Committee of the Manufacturers' Convention
in Virginia.*

LEAD AND COPPER.

Lead also exists, and has been mined to some extent in the county of Wythe, but the production is now confined to the wants of the immediate neighborhood, but could be increased to an adequate extent.

Copper ores also are found in several counties, and may hereafter, by the encouragement of the copper manufactories of the country furnishing a market for them, become a source of much wealth, besides adding immensely to the consumption of coal. The consumption of copper in the United States now amounts to upwards of \$30,000,000 per annum, about one-third of which is imported from England in sheets.

DISCOVERY OF A LEAD MINE IN CALIFORNIA.

California is noted for her resources of every character. Every day brings to view and develops more fully her hidden treasures. The *Sacramento Transcript* states, on what it deems credible authority, that a large mine of lead, in an almost pure state, exists several miles north-east of the emigrant road, about eleven miles above Johnson's ranche. It was discovered by two Irishmen who were emigrating to California, and who had wandered from the road several miles, in pursuit of stock. They at once supposed it to be a silver mine, and that their fortunes were 'made.' They brought a large quantity to Mr. Johnson's ranche; it was examined and found to be very rich lead ore, containing probably 95 per cent of lead. Vast quantities could readily be obtained without the sinking of a shaft, or the driving of a level, since the ore is represented to lie upon the surface of the earth in large boulders. In course of time it is quite

probable that the mine will be worked, and as no scientific examination has been made, it is fair to presume that the ore contains a fair proportion of silver, the latter being generally found to a greater or less extent in all lead mines.

THE PROFITS OF CALIFORNIA GOLD MINING.

Dr. Charles T. Jackson, a geologist in Massachusetts of some celebrity, lately delivered a course of lectures; in one of which he thus speaks of gold mining, and the products of different mines:—

“The mines of California are estimated to have produced thirty millions of dollars in gold to the United States, and fifty to all other countries. Although these mines are worked with all the energy and prudence of New Englanders, and although some have made fortunes, in the end the whole California mania will prove a most unfortunate speculation. The delusion that gold mines will grow richer, as you descend into the earth, will prove fatal to many. The soil, in the first place, has been washed by the rains, which in a great degree exposed the gold. The rocks of California may be auriferous, but it can derive no profit from these, since it is without roads or machinery, and is dependent upon other countries for supplies, even though the rocks of Virginia have been profitably worked, which contain only $12\frac{1}{2}$ cents of gold to one hundred weight of ore. It will be a long time before mining can be carried on successfully there. Before the gold mines of California were discovered, it has been estimated that gold diggers, as a class, never had averaged more than $37\frac{1}{2}$ cents per day, to each individual: since, not more than \$1.25. One *may* make a fortune at mining, but the chance is extremely hazardous. An experience in mining of a thousand years in Europe, has shown that only one mine in twenty proves profitable, but this one may pay enormously.

THE MINERS OF CALIFORNIA.

The San Francisco *Transcript* thus portrays the character of the people of that “wonder of the world,” California:—

“Full justice is not, and cannot be meted out to the bold and enterpri-

sing miner, as well as the more quiet but not less useful agriculturist, by those who were separated from us by towering mountains, which seem placed as barriers to the dissemination of intelligence. No one who has not visited the mountains can appreciate the toil the miners undergo, or the powers of endurance they possess. The magnitude of their labors must first be viewed before they can be appreciated. There is no class of men more deserving of the favors of Dame Fortune than they—for nowhere do we find a people so strongly possessed of energy and indomitable perseverance. A country peopled with such men cannot fail of becoming a great, wealthy, powerful, prosperous and happy State. With such a people residing permanently on her soil, California will soon outstrip her older sisters in the race for distinction. In the ordinary elements of wealth, prosperity, greatness, power, she is not behind the older States, while she far surpasses the most favored of the glorious sisterhood, in her inexhaustible supplies of the precious metals, and her population comprises the very flower of the enterprise, intelligence, and active business talent, not only of our own, but also of other countries.”

QUICKSILVER MINES OF CALIFORNIA.

The richest mine yet discovered, as we learn from the *Pacific News*, is located in the Santa Clara Valley, about twelve miles from San Jose, which is worked by an individual company, who hold possession under the old Mexican title of “denouncement.” At this mine a large number of furnaces are in operation. These furnaces resemble in appearance a long steam boiler, set in bricks, with fires underneath. The cinnabar, or quicksilver ore, is thrown into the boiler, where it is left from thirty to forty hours, by which time it is smelted, and the quicksilver, in a fluid state, is drawn off in vessels, after the manner observed in iron foundries. The ore does not require to be crushed, except to a convenient size for the boilers.

The color of the ore is vermillion, resembling red chalk, immense piles of which are constantly on hand, prepared for the smelting process, and which not unfrequently yields fifty per cent—sometimes the net profits yielding as high as \$1,000 per day. The mine is worked by Mexicans and Chileans, who carry the ore in raw hide sacks, upon their shoulders, from the bottom of the vein to the opening above, a distance between

three and four hundred feet. The mine is probably the richest in the world, and with the same facilities and machinery used elsewhere, would yield most enormously, far beyond even what is now produced.

At one time during the past season, there were 8,000 *cargas*, or mule loads of the ore laying at the mouth of the mine, each *carga* being three hundred pounds, or an aggregate of 2,400,000 pounds. At an average yield of fifty per cent the product would be 1,200,000 pounds of pure quicksilver, which at a market value of \$1 per pound, would yield the enormous sum of \$1,200,000. This finds its way to market in one direction and another, but its value is enhanced by the fact that California itself affords a good market, large quantities being used in separating fine particles of gold from the sand and dirt, and which cannot be procured in the ordinary process of washing.

EXPORTS OF GOLD FROM CALIFORNIA IN 1849-50.

The statement published below of the value of gold exported from California, in each month from April 1st, 1849, to December 31st, 1850, was compiled from official sources, and originally prepared for the San Francisco *Herald*. It may, therefore, be relied upon as accurate as far as it pretends to speak of facts. The estimates are, of course, matters of opinion, based, however, upon authentic information, derived from the very best sources.

STATEMENT NO. I.

Tabular statement of Gold dust shipped from San Francisco, from April 1, 1849, to 31st December, 1850, inclusive.—Passengers at an average of \$500 each.

	Passen- gers.	Gold dust.	
		By pas- sengers.	Freight.
April 1, 1849.....	75	\$37,500	\$166,638
May.....	54	27,000	340,553
June.....	74	37,000	345,820
July.....	35	17,000	263,164
August.....	110	55,000	533,562
September.....	253	126,500	575,500
October.....	281	140,500	293,891
November.....	470	235,000	1,335,779
December.....	157	78,500	705,294
Carried forward.....	1509	\$754,000	\$4,560,211

Carried forward.....	1509	\$754,000	\$4,560,211
January 1, 1850.....	515	257,000	1,252,770
February.....	202	101,000	658,933
March.....	248	124,000	1,138,709
April.....	345	172,500	2,220,520
May.....	284	142,000	1,651,496
June.....	503	151,500	2,829,493
July.....	541	270,500	3,336,043
August.....	973	486,500	3,538,343
September.....	1,017	507,500	3,232,300
October.....	1,243	621,500	3,799,910
November.....	1,140	570,000	3,749,539
December.....	625	312,500	2,800,000
Total.....	9,145	4,065,000	\$34,770,306

The above statement, from April 1, 1849, to May 1, 1850, includes only the gold dust shipped on the steamer of Howland & Aspinwall's line. From that period, shipments and passengers by Law's line and the Empire City line, are included.

STATEMENT NO. II.

Gold dust shipped to Chili and Peru, by the Chili and California Flour Company, as per statement from their books, and for which there has been no manifest entry in the custom-house..	\$1,373,000
Shipped by one English commercial house, on board Inconstant, Driver, Dædalus, and merchant vessels, and not reported to the custom-house.....	873,000
Stamped bullion by one establishment, as per statement.....	1,570,216
Jewelry manufactured by Jacks & Brothers, (late W. A. Woodruff).....	51,520
Shipped on sailing vessels, as per custom-house report.....	708,306
Total.....	\$4,576,042

STATEMENT NO. III.

To these amounts may be added the following estimates, which are made up from the best information that can be obtained from well informed persons:—

Gold dust carried overland and coastwise, by Miners from Mexico, Chili, Oregon, &c.....	7,500,000
Shipped by merchants, of which there is no manifest entry.....	5,000,000
Manufactured into jewelry, coin, &c., other than the above statement.....	500,000
In the possession of miners, merchants, brokers, and others.....	6,000,000
Total.....	\$19,000,000

RECAPITULATION.

Gold dust shipped by steamers, from April 1, 1849, to December 1, 1849.....	\$4,560,201
In steamers from January 1, 1850, to December 31, 1850.....	30,010,054
Estimated to have been taken by passengers from April 1, to December 31, 1849.....	754,500
By passengers from January 1, to December 31, 1850.....	2,817,000
As per statement No. 2.....	4,576,042
As per statement No. 3.....	19,000,000
Total.....	<u>\$62,717,797</u>
In the above estimate, the value of gold dust has been computed at \$16 the ounce Troy ; to this amount should be added \$1.50 per ounce, the Mint value, say.....	<u>\$5,869,794</u>
Total, at Mint valuation.....	<u>\$68,587,590</u>

It is supposed there are 150,000 persons now in California, engaged in mining for gold.

THE GOLD OF CALIFORNIA—REMARKABLE ESTIMATE OF THE EXPORTS OF GOLD.

The annexed statement exhibits the amount of gold dust shipped from San Francisco, by the steamships leaving that port for Panama, from the 11th of April, 1849, to the 4th of October, 1850 :—

Dates.	Passengers.	Gold Dust.	Dates	Passengers.	Gold Dust.
April 11	75.....	\$ 166,638 07	May 1	88.....	\$ 1,386,496 03
May 1	54.....	340,553 35	June 1	246.....	2,344,324 04
June 20	74.....	345,820 29			
July 2	35.....	263,164 44		3173	\$13,329,388 62
Aug. 2	110.....	533,562 93	July 1	182.....	1,800,000 00
Sept. 1	253.....	575,500 70			
Oct. 1	281.....	293,891 62	Total...	3355	\$15,129,388 62
Nov. 1	212.....	915,717 09	July 15		1,076,043 00
Nov. 15	258.....	420,062 00	Aug. 1		1,961,862 00
Dec. 1	157.....	707,296 88	Aug. 15		773,257 00
Jan. 1	278.....	896,463 57	Sept. 1		1,500,000 00
Jan. 15	237.....	355,306 93	Sept. 15		1,700,000 00
Feb. 1	202.....	658,982 09	Oct. 1		1,800,000 00
March 1	248.....	1,138,709 76	Oct. 4		1,250,000 00
April 1	229.....	1,453,634 42			
April 20	116.....	568,886 56	Total.....		<u>\$25,100,550 62</u>

The amounts named above are merely the sums on the freight list of each steamer. The amounts brought by passengers are only guess work ;

and although they have, without doubt, been large, it is hardly possible to form even an estimate approximating the truth. Sailing vessels from San Francisco direct to this and other Atlantic ports, to Panama and other ports of the Pacific, have taken many millions of gold dust. It appears to us fully safe to estimate an exportation of, at least, \$50,000,000 gold dust from San Francisco by sea within the above named period. It will be seen that since February last the monthly shipments have been very large compared with those made previously—the inference from which is, that the great increase in the number of miners has proportionally increased the product. In August the shipments amounted to \$2,735,119; September, \$3,200,000; and in the first four days of October, \$3,050,000. This is an average of about \$3,000,000 per month, provided no more shipments are made in October. We, however, make no such provision, for it is our impression that the steamer or steamers, which left San Francisco on or about the 15th October will bring between two and three millions of Gold dust, which, added to the amount above reported, shipped since the 1st Oct., will make an average monthly shipment of nearly \$4,000,000 in gold dust. This is enormous, and the public hardly realise its magnitude and importance. We can well recollect the time, within the past three years, when an arrival of \$2,000,000 or \$3,000,000 of specie from any other part of the world would have created as great an excitement in financial and commercial circles as any event we can call to mind. That was when the coin was merely transferred from one commercial point to another; but now, when we are receiving \$3,000,000 and \$4,000,000 a month—month after month—direct from the mines, and when it is so much added to the supply of precious metals in the world, it hardly causes a remark, and has no visible effect upon the movements of commerce. Those who are looking back to the stock speculation of previous years, and making efforts to trace similar effects from similar causes, must bear in mind that we have not had the gold mines of California to draw upon for immense amounts of gold dust, but have expanded from time to time, without any basis for the credits created by the increase of contracts. So long as the expansion is healthy and sound, no apprehensions need be entertained that a revulsion is at hand, or that any great depreciation will be realised in prices for stock securities or any species of property.—*New York Herald*.

METALLIC AND MINERAL WEALTH.

The gold region of California is between four and five hundred miles long, and from forty to fifty miles broad, following the line of the Sierra Nevada. Gold was first discovered on the south fork of the American river, in May or June, 1848. It is supposed that there were not far from 5,000 men employed in collecting gold, during the season of 1848. If we suppose that they obtained an average of one thousand dollars each—which is regarded by well-informed persons as a low estimate—the aggregate amount will be \$5,000,000. During the year 1849, the American immigration had come in by land and the number in the mines had increased to between forty and fifty thousand. Mr. King estimates as the result of the operations in the mines for 1848 and 1849—the round sum of \$40,000,000—one half of which was probably collected and carried out of the country by foreigners, more than fifteen thousand of whom, mostly Mexicans and Chilians, came into the mining districts, during the season of 1849.

The quicksilver mines of California are believed to be numerous, extensive, and valuable, and it is said also that there are extensive beds of silver, iron, and copper ores in the territory, but there is no information respecting them sufficiently accurate to justify any statement of their existence or value.

PASSAGE ACROSS THE ISTHMUS.

Two companies are now in operation to construct communications through Central America, from the Atlantic to the Pacific ocean; one by railroad from Navy Bay, near Chagres, on the Atlantic, sixty-seven miles, to Panama on the Pacific. The estimated cost of the road is \$5,000,000. The other company proposes to construct a ship canal from the mouth of San Juan river, via Nicaragua lake to Realejo on the Pacific, about 140 miles—estimated cost, \$20,000,000.

COMMERCIAL RESOURCES.

These are at present founded entirely in the metallic wealth of California—her vast mineral treasures remaining undeveloped, and her fertile soil almost wholly neglected; and this must continue to be the

case as long as labor, employed in collecting gold, shall be more profitable than any other pursuit which can furnish the sinews of commerce. The day, however, is probably not far distant, when her minerals, especially the quicksilver mines, will be extensively and profitably worked.

Important as the commerce of the Pacific undoubtedly is, and will be, to California, it can not now, nor will it ever, compare in magnitude and value to the domestic trade between her and the older states of the Union. The countries on the west coast of America have no exports which find a market in China or other parts of Asia. San Francisco will therefore become, not only the mart of these exports, but also of the products and manufactures of India, which must be paid for principally in gold coin or gold dust. Neither gold coin nor gold dust will answer as a remittance to China, where gold is not currency. Hence the importer of manufactures and products of India into San Francisco, will remit the gold or gold coin direct to the Atlantic cities, for investment in sterling bills on London, to be placed to the credit, in London, of the firm in China, whence the merchandise had been received.

CALIFORNIAN GOLD—MAGNIFICENT SPECIMEN.

At Professor Tennant's last lecture upon Mineralogy, at King's College, he exhibited, by permission of H. J. Prescott, Esq., and W. Marshall, Esq., governors of the bank of England, the largest lump of California gold yet brought to this country. It was dug out of an alluvial bank at Carson's Creek, on the Stanislaus river, in August, 1850, by an Irishman, named John Hughes, of Ardglass, near Downpatrick. It is a water-worn specimen, and weighs 18 lbs. 3 ozs. 8 grs.; and its value as a specimen is about £1000. It is the property of the Bank of England.

CALIFORNIA.

Col. Fremont's representative in Europe for granting leases of portions of his quartz gold mines (the Hon. David Hoffman) has, we hear, just returned to London from Paris, where he was invited to present himself by some French capitalists of high standing, for the purpose of negotiating with him treaties for grants of portions of the mineral

ground on the Mariposa heights, and of agricultural tracts for settlers in the valley of that river. We believe that contracts on terms satisfactory to both parties have been concluded. We understand also that a party of capitalists at Brussels, hearing of the agent's presence in Paris, availed themselves of the opportunity of his visit to make their investigations and treat for grants also. The result has been that they, likewise, have taken a sett, and an organized band of Belgian miners either have left, or are in the course of shipping for California, to work the ground.

[E.]

THE GOLD OF CALIFORNIA.

A writer in the Cincinnati *Chronicle and Atlas*, alluding to a speculation raised as to the effects likely to be produced by the large increase of gold from California, and being, as he informs us, satisfied that great misapprehension exists as to the probable effects of California gold upon the monetary transactions of the world, offers a few facts and observations in illustration of the position he assumes, viz., that there is “no danger of gold being materially depreciated as the standard of value, &c.” Believing the subject to be one of interest to the readers of the *Merchant's Magazine*, and that its free and fair discussion will tend to its elucidation, we transfer the remarks of the writer in the *Chronicle* to our pages :—

“Unless the yield from the California mines greatly exceed what appears probable, I feel no hesitation in saying, that there is no danger of gold being materially depreciated as the standard of value, and that the idea of its ceasing at no distant day to be the standard of value, in consequence of its reduction in price, is an extravagant and wild imagination. Upon the most reliable data, Mr. Jacobs, a person supposed to be of high authority in monetary matters, estimated the total coinage of the world in 1830, at £313,000,000, or \$1,514,920,000—an amount less by £60,000,000, or \$290,400,000 than the supposed coinage of 1808. If we may suppose that the present coinage of the world is only so large as that supposed in 1830, to wit, \$1,514,920,000, it will rea-

dily be perceived that it will require no inconsiderable increase of the precious metals to tell sensibly upon the existing coinage.

“But it should be borne in mind that the coinage of the world does not by any means embrace the largest proportion of the total amount of the precious metals. It does not embrace, probably, more than one-third. If the coinage of the world be \$1,514,920,000, we may estimate the total value of the precious metals at \$4,544,760,000. Is it likely that the yield of the California mines will be large enough to tell materially on this large amount of the precious metals, when we consider the continual loss to which they are exposed from abrasion, shipwreck, and other casualties? In connexion with this view, it may be as well to mention that a few years ago the Emperor of Russia threw one hundred millions of dollars in gold, the produce of his Ural mines, into the money market, and that neither the currency of the world, nor the price of gold, has yet been sensibly affected by it.

“But the misapprehension on this subject arises chiefly from a failure to consider that *the demand for the precious metals increases* to a very great extent, with the increase of their *supply*. It is this principle which has kept up, in a great measure, the price of these metals, notwithstanding their enormous increase, consequent upon the discovery of America. And it is this principle which will prevent the increase consequent on the discovery of the California mines, from materially depreciating gold, even although that increase should be much greater than it is probable that it really will be.

“Mr. Say, in his excellent treatise on Political Economy, estimates that while the increase of the precious metals consequent upon the discovery of America was ten-fold, the reduction of their value was only four-fold. The reason why the reduction of value was not commensurate with the increase of supply was, that there was a cotemporaneous increase of demand—‘The costly objects that none but princes could before aspire to possess, became attainable by the commercial classes; and the increasing taste for plate and expensive furniture created a great demand for gold and silver to be employed on those objects.’ It is true that a number of circumstances conspired with the increased supply of gold and silver to extend the demand for them. The opening of a route to the East Indies by the Cape of Good Hope, the general advance of Europe in civilization, and the discovery of the new world itself, exerted a material influence in extending the operations of commerce, augmenting wealth, and enlarging the demand for the precious metals. The increase of gold from Califor-

nia will be attended by circumstances of a similar nature. The establishment of the European race on the shores of the Pacific, and the direct communication thereby created with China and the Sandwich Islands will widely extend the operations of commerce, and open new springs of wealth. If the California mines, therefore, should increase the supply of gold by ten-fold, we need not entertain any uneasiness on the score of the metal's becoming too much degraded to answer the purposes of a convenient commercial currency. We may safely conclude, from the results of former experience, that in that case it would not be depreciated more than four-fold. Even with that reduction of value, it would be much more precious than silver, which is found to answer very well the purpose of currency. The value of gold, as compared with silver, may be stated to be in Europe about as $15\frac{1}{8}$ to one, although according to Baron Humboldt, it is in China only as 11 *a* 13 to one, and in Japan only as eight or nine to one. With the supposed reduction, its value in Europe would still be to silver as 3·87 to one.

“But will the California placers and quartz rock increase the gold of the world ten-fold. I answer emphatically never. All the mines of America only effected such an increase of the precious metals at a time when their amount was at least ten times smaller than at present. Mr. Jacobs estimated the total currency of Europe in the 10th century at £33,000,000, and it was not probably much more at the period of the discovery of America. It is a much easier task to increase £33,000,000 by ten-fold than £313,000,000, the present estimated currency of the world. It is not at all probable that the California mines will do more than double the supply of gold, in the next half century. If I am right in estimating the total amount of gold and silver in the world at \$4,500,000,000, and the proportion of gold at one-fourth, or \$1,125,000,000, then it will require nearly fifty years for the California mines to double the existing supply of gold, even if they should yield the yearly average of \$25,000,000, which is far beyond what they have yet done. Such an increase would not, probably, diminish the value of gold more than 40 per cent, (if at all,) a diminution which being distributed over the period of half a century, would amount to less than one per cent a year, and would not be sensibly felt.

“The products of all the mines of America, Europe, and Africa, during the 18th century, are estimated by Mr. Jacobs at £870,000,000 or \$4,210,800,000, and yet the total coinage of the world at the end of that century, is only supposed by him to have been £387,000,000, or

\$1,921,480,000. What, may be asked, came of the remainder of the gold and silver, amounting to \$2,289,320,000, in addition to the preceding amount, that it neither entered into the currency of the world, nor sensibly diminished the value of these metals? The answer is, it was either converted into plate and jewelry, or was lost by abrasion, fire, shipwreck, and other casualties. A like destiny awaits the gold to be extracted from the California mines. It is neither going to make money so plenty as many imagine, nor to diminish sensibly the value of gold. I have not taken time to systematize or elucidate; but these random thoughts may serve to correct some false notions about California gold."

IMPORT AND EXPORT OF COIN AND BULLION.

A statement exhibiting the amount of coin and bullion imported and exported annually, from 1821 to 1850, inclusive; and also, the amount of importation over exportation, and of exportation over importation during the same years, derived from the Treasury Department, Register's Office, December 2, 1850.

Years ending	Imported.	Exported.	Excess of Importation over exportation	Export'n over importation.
September 30, 1821	\$8,064,890	\$10,478,059		\$2,413,196
" 1822	3,369,846	10,810,180		7,440,334
" 1823	5,097,896	6,372,937		1,275,091
" 1824	8,379,835	7,014,552	\$1,365,283	
" 1825	6,150,765	8,797,055		2,646,290
" 1826	6,880,966	4,704,533	2,176,433	
" 1827	8,151,130	8,014,880	136,250	
" 1828	7,489,741	8,243,476		753,735
" 1829	7,403,612	4,924,020	2,479,592	
" 1830	8,155,964	2,173,773	5,977,191	
" 1831	7,305,945	9,014,931		1,708,986
" 1832	5,907,504	5,656,340	251,174	
" 1833	7,070,368	2,611,701	4,453,667	
" 1834	17,911,632	2,076,758	15,834,874	
" 1835	13,131,447	6,477,775	6,653,672	
" 1836	13,400,831	4,324,336	9,076,545	
" 1837	10,516,414	5,976,249	4,540,165	
" 1838	17,747,116	3,508,046	14,239,070	
" 1839	5,595,176	8,776,743		3,181,567
" 1840	8,882,813	8,417,014	465,799	
" 1841	4,988,633	10,034,332		5,045,699
" 1842	4,087,016	4,813,539		726,523
1843*	22,320,335	1,520,791	20,799,544	
1844†	5,830,429	5,454,214	376,215	
1845†	4,070,242	8,606,495		4,536,258
1846†	3,777,732	3,905,268		127,536
1847†	24,121,289	1,907,739	22,213,550	
1848†	6,360,224	15,841,620		9,481,396
1849†	6,651,240	5,404,648	1,246,592	
1850†	4,628,792	7,522,994		2,894,202
Total	\$263,449,873	\$193,390,048	\$112,290,606	\$42,239,781

* Nine months, ending 30th June.

† Year ending June 30.

[F.]

THE GOLD REGION IN BOLIVIA.

A letter received by the last South American mail says:—"I have again to call your attention to the subject of Curabaya. It is supposed that this will be a second California. They are discovering every day new and immensely rich veins of gold, but from one mine alone, which is several yards wide, and which is partly owned by a distant relation of mine, they have got out already 24,000 quintals of ore, which will yield an amount of from \$200,000 to \$250,000 in gold. This is only waiting for proper machinery for grinding. Curabaya differs from Tipuani in one respect, where they are veins and not washings, although these last exist as well, but are not worked on account of the sources of the gold—that is, the veins—being on the surface. The stories told of the riches (and they gain strength every day) are almost incredible, and every one here is endeavoring to get a share in some of the undertakings. I wish I could convince you and others of the unheard-of riches which have never been explored by the Spaniards, and which are only now coming to light."

PROGRESS OF MINING IN SOUTH AMERICA.

We have received a report from a gentleman connected with the Veta Morena Mine, in the mineral district of Chanarcello, about 54 miles south of Copiapo, which is encouraging as to the prospects of the country. During 14 months, from June 1849, to August 1850, ore was raised which produced 52,439 lbs. of silver, realising at \$18 per lb., the sum of \$943,902. The entire cost of labor, materials, amalgamation, &c., amounted to \$120,312—leaving a clear profit of \$823,590. To organise a company for the purpose of more fully developing the resources of the country, the owners are about arranging a mass of information on the geology and mineral character of the district, from which it appears that all the attempts at exploration in the neighborhood for the precious metals have proved the fact that they increase in richness in depth. There appears to be a want of capital in the country, or the people of

Copiapo would ere this have embraced the opportunity of working these veins of silver, and it is intended to endeavor to enlist the capitalists of this country for the purpose of working the mines.

GOLD MINES OF NEW GRENADA.

The mines are situated in the province of Antioquia, and consist of deep mines, and those spots where the precious metal is obtained by washing. The most noted localities for the deposits of auriferous sands are those of Sinitabe, Oquendo, Baharona, San Juan, La Vaca, and Rio Dulze. The mines which have been explored, and given the best results are Los Cristales, Juan Criollo, Bolivia, La Clara, El Chuchero, Rumazon, San Jorge, Du Porce, La Trinidad, Las Animos, San Francisco, La Constancia, Neuva Companica, El Rio, La Esperanza, Santa Anna, La Martica, Palmichal, El Frontino, Apucario, La Centeno, La Esmeralda, Queana, El Zancudo, El Retiro, and San Vincente. The three which at present are in profitable course of working are those of Zancudo, at Tinibe; La Clara, at Amalfi; and Pedrero, on the banks of the river Porce. About 2728 lbs. of the produce has been exported, and 2462 lbs. coined. The gold raised has been calculated to be of the value of about £400,000 annually.

MINING IN GREENLAND.

We have seen some rich specimens of copper ore (*buntkupfer erz*) of from 65 to 70 per cent., silver-lead, iron ore, as well as crysolite, and plumbago, which has been brought from this distant locality. The discoverer is Mr. Jacob Lundt, who last year explored this *terra incognita*, and who has received a grant of the whole of the minerals and metals he may discover, free of all royalties. His Danish Majesty, who has given the concession to Mr. Lundt (Greenland being a Crown monopoly), has expressed great interest in his discoveries, and promised to assist him with his aid and countenance in his explorations. We have some of the pencils made from the plumbago, which are of more than average quality. A large specimen of Greenland plumbago has been presented by Mr. Lundt to the Museum of Economic Geology, Jermyn-street. From our

advertising columns, it will be seen that an experienced mineralogist is required to inspect the several lodes. That of copper, we are informed, is upwards of 9 ft. wide.

MINING IN JAMAICA.

By an official notification, we learn that "the partnership formed for the purpose of mining on the Island of Jamaica, under articles dated 1st of December, 1849, and known under the style of the British and American Mining Company, being a partnership at will, the same is dissolved by the withdrawal of the undersigned, and by mutual consent.—Frederick Goodell, Charles P. Baldwin, Charles J. Starr." A correspondent says—"I am sorry I cannot give you the reasons which have led to this dissolution. I must, however, reiterate my conviction, that the country has great mineral wealth, and only requires capital and the steady exertions of your countrymen to develop her resources."

QUICKSILVER.

A firm in the city, we learn, is authorised to open a floating policy for 300,000 lbs. of quicksilver, from the mines of New Almaden, in South California. The supply of quicksilver to the Pasco and other silver districts in South America is of the greatest importance in raising the yield of silver ores. In fact it will give an impulse to silver mining, such as it has not received since the genius of Trevithick revived the workings of the flooded mines by setting the first steam-engine to work on the heights of Pasco. Trevithick's labors have borne their fruit, and now an ample supply of steam machinery enables abundance of ore to be raised, but its reduction in the amalgamation process by a cheap supply of quicksilver is the stage to which a stimulus must be applied to increase the yield, and which the discovery of the cinnabar mines of California promises to afford. The effect of the large supplies which the New Almaden Mines promise will be to reduce the monopoly price of the quicksilver of Almaden, Jaria, Huancavelica and the other seats of production. To Mexico the benefit will be great, inasmuch as Zacatecas, Guanaxuato, Sonora, and the other mining districts will

derive their supplies from the ports on the Pacific, from which the communications are more convenient, instead of from the ports in the Gulf of Mexico.—*Daily News*.

ON THE FUTURE PRODUCTION OF SILVER.

In the *Daily News* of Thursday last, an inquiry is entered into as to the future expected increased production of silver from the newly discovered sources in California, and the extended workings in South America and other countries. In the production of silver, the raising the crude ore in ever such large quantities is not sufficient; as from all the present known methods of reduction, it appears a necessary consequence that the yield of silver depends upon the plentiful and regular supply of mercury. The full advantages gained by steam-power applied to machinery, which has kept many deep mines at work that must otherwise have been suspended, cannot be availed of, and has been greatly checked, by an insufficiency, or the high price of quicksilver, supplied through the monopolists of Almaden. *The day may, perhaps, come when silver ores, like those of copper, lead, and hæmatitic iron, may be taken to the smelter, who has fuel at command, but the machinery of transport has to be provided in countries new, thinly peopled, and almost deserted.*

The new Almaden mines, in California, hold out expectations of a large supply, and great reduction in the price, of quicksilver, which has already, in anticipation, fallen considerably in Pasco and other South American mining districts—a floating policy having been opened in London for shipments on the Pacific, for 300,000 lbs. of that metal.

The writer then proceeds to inquire what quantity of quicksilver is required to produce a pound of silver, and what quantity of silver will a given quantity of California quicksilver produce. The basis taken for this inquiry is Mexico, as the production of silver there is large, and a good supply of quicksilver is obtained from Europe. The estimate of the coinage of all Mexico for 1849 is \$20,000,000, of which \$9,000,000 were from Guanaxuato, where the amalgamation process is best conducted.

The cost of raising quicksilver at Almaden is about 18 Spanish dollars per quintal, and is supplied to the Spanish mines at \$45. In Lon-

don, the selling price is now 3s. 9d. per lb.; it has been as high as 4s. 6d., and in 1829 was as low as 2s. 10d. In 1849, the cash price in Guanaxuato was \$118, while from California a quotation is given, dated last August, at \$16 per quintal, a reduction of remarkable importance to the silver mining interest. The writer then supposes that 300,000 lbs., the amount in the floating insurance, should be shipped every two months; this would produce as much silver as Mexico, \$18,000,000, or £4,000,000 sterling, a quantity not more than corresponding to the amount of gold now pouring in from California; and he expresses the opinion that, even should a still larger amount be shipped, it would not immediately stimulate silver mining to the extent some persons believe.

LIGUANEA AND GENERAL MINING COMPANY OF JAMAICA.

This company, which has just entered the field of mining competition and enterprise, has been formed for developing the mineral wealth of the island of Jamaica, and especially the Liguanea district, which has long been reputed to possess a great extent of mineral riches of a valuable character. It appears that several varieties of rich copper and lead ore, impregnated with silver, have been lately discovered, although, up to the present time, from the exclusive attention given to the production of sugar and coffee, these discoveries have been almost wholly neglected. Latterly, however, increased attention has been directed to mining operations in Jamaica, owing to the researches made by enterprising Americans, and considerable investments have been made. It is in reference to these discoveries, apparently, that the new company has been formed—the favorable position of Jamaica, in connection with the events in progress in Central America, holding out a powerful temptation, from the certainty of a market for the mineral produce of the colony. For effecting the purposes contemplated by the company, it is considered that a capital of £12,000, in £1 shares, is amply sufficient; and in the allotment of the shares, a preference, we observe, is to be given to the shareholders of the “Annotto Bay Mining Association,” in the proportion of one to every two shares. The entire number of shares have been already applied for, and the company is announced as “provisionally registered.”

COPPER MINES OF NEW MEXICO.

A correspondent of the *Providence Journal*, attached to the Mexican Boundary Commission, writes as follows from Santa Rita de Cabre, New Mexico, regarding the copper mines of that region :—" Here, within 40 miles of Gila, and in the heart of the country of the Apaches, I find myself with a spare hour, which I will devote to giving you some account of the mines which have been abandoned for 12 years. There was formerly a population of 600 people here, and the houses occupied by them still remain in a more or less ruined condition. The spot is a charming one—a sheltered valley surrounded by high and bold mountains, the sides of which are all well wooded, a stream of pure water running through it. The mines were first opened in 1804, and have been worked by various individuals with profit, until 1838. The amount of labor which has been performed here is immense. There are several openings in the hill. The rock is usually felspar, and the ore a red oxide of copper intermixed with native metal. Large quantities of ore ready for smelting are deposited near the smelting-house. Gold is said to have been found near here, and we are told that it was the custom of one of the workers of the mines to allow the miners on Friday and Saturday of each week to work on their own account, and that many of them employed their days in gold digging. This gentleman, a M. Coursier, a French resident of Chihuahua, is said to have made a large fortune by working the mines; he had a contract to furnish the State with copper for coining, for which he received a large price. The mining operations were suspended through fear of the Apaches."

CUBA.

Cuba is traversed nearly its whole length (excepting the centre) by a range of mountains, some of which are 8,500 feet, or nearly a mile and a half higher than the Carribean sea level. It is well watered by rapid streams, abounding with delicious fish; wild fowl fill its groves and cover its lakes: its shores are low and flat: it is rich in minerals. England derives large supplies of copper from its mines: iron is abundant and of good quality: gold is washed down from its steeps.

Value of Exports in 1842, from the several Ports.

Havana	\$13,118,585	Cienfuegos	\$509,806
St. Jago.....	6,784,765	Manzanillo.....	170,984
Matanzas.....	4,365,926	Santi-Espiritu.....	23,488
Trinidad	1,129,501	Santa Cruz.....	34,222
Nuevitas	205,116	San Juan.....	8,208
Baracoa	85,233		
Gibara	248,763	Total	\$26,684,697

The value of the principal articles of export in 1842 was as follows :—

Sugar.....	\$11,447,009	Wax.....	\$290,828
Coffee.....	2,998,269	Mahogany.....	56,161
Tobacco.....	1,461,760	Honey	71,325
Cigars	749,812	Fruits	49,298
Molasses	744,608	COPPER ORE.....	4,981,405
Spirits.....	204,550		

The exports of the principal articles of produce for eleven months in 1844 were as follows :—

Sugar	1,210,947	boxes ;
Coffee	708,491	arrobas ;
Molasses.....	205,559	hogsheads ;
Leaf-Tobacco	4,647,737	lbs. ;
Cigars.....	146,239	thousands ;
COPPER ORE.....	571,826	quintals (100 lbs.)

Exports and Imports in 1847 and 1848.

Exports	\$27,998,770.....	\$26,077,068
Imports	32,389,119.....	25,435,565
Exports to United States.....	8,880,040.....	8,285,928
Imports from do	10,882,335.....	6,933,538

The first eleven months, 1848, she exported 28,091 tons of copper.

During the year ending June 30th, 1848, the United States imported from Cuba, \$152,927 worth of copper.

THE GOLD FIELD IN CANADA.

Having lately returned from Canada, passing through the lower country, I was fully satisfied that the extensive gold region in that country was making excellent returns ; and by comparing them with what was being done in California, I found they were quite equal to the latter—only, of course, on a much more limited scale ; and while the papers are teeming with news from the “diggings” of California, the gold region of Lower Canada appears little thought of, although the former country

is 16,000 miles off, and a soil the English nation have no direct interest in ; whilst the latter is at present an appendage to the British Crown, and 12,000 miles nearer. The gold is found from the size of a few grains to pieces of 1 lb. weight and upwards ; I have known a person, unaccustomed to washing, equal many of the most celebrated day's work in California. The gold is generally imbedded in rock, which, on being broken up, gives forth the precious metal. It is found from the surface to the depth of 15 ft., and a square mile contains upwards of 3,000,000 square yards ; and, if worked to the depth of 15 ft., each square mile will require 15,000,000 square yards to be quarried, and in a country (say 20 miles by 10) containing something like 30,000,000,000 square yards. Here would be a pretty little job for some of our unemployed laborers for the next 50 years at least ; all the unemployed labor in Great Britain would not make any impression on it. In that climate labor could be carried on for about 200 days in the year. In the winter months laborers could be advantageously employed in timbering and working in the copper and iron mines lately discovered, about 25 miles distant from the gold field. The former is probably the largest vein known, being about 18 ft. by 10 ft., exposed to the surface of the rock for a considerable distance. Iron (native) only requires breaking up and welding, excellent horse shoes having been turned out of the raw ore.

These mines have been in part disposed of to some half-dozen spirited individuals in Quebec, numbering, amongst others, one or more members of the fair sex : probably not another dozen people could be got to take shares, unless they could be certain of digging out the ready-stamped dollars. Why are the people of Canada so much behind their Yankee neighbors, who keep a sharp eye on them ? A flood of gold diggers into Lower Canada would possibly swamp the preponderance of the old Canadian settlers, with their black-petticoated gentry, that at present encumber the land. Some such convulsion appears needful to their existence as an independent country—"Something is rotten in the state of Denmark." What that may be is not my present business to point out. The evil exists—or why is she slumbering whilst her neighbors are wide awake ? Mayhap the habits and customs of European officials, with large salaries, do not assimilate with the ideas of people in a new country. It is impossible to describe that change of feeling ; it can only be felt to

be understood. These, coupled with the habits of the old Canadian race, may account for her tortoise-like steps.

At the forthcoming Great Exhibition, splendid specimens of the gold will appear, which may probably draw the attention of capitalists to this quarter, and certainly a more favorable opening never occurred.

I shall avail myself of an early opportunity to supply some more detailed particulars on the subject; but not having met with any account of the existence of gold in Canada, I considered this brief notice would, at least, prove interesting to your readers; and it may, probably, draw forth further information from others on what must be considered an important matter.

[H.]

COPPER ORES.

Sampled May 21, and Sold at Swansea, June 10, 1851.

Mines.	Tons.	Prod.	Price.	Mines.	Tons.	Prod.	Price.
Cobre	108....	$16\frac{1}{3}$	£11 12 0	Cobre	22....	$18\frac{3}{4}$	£14 6 0
ditto	105....	$16\frac{1}{3}$	11 12 0	ditto	51....	$25\frac{1}{4}$	18 10 6
ditto	67....	$24\frac{1}{2}$	18 1 6	ditto	36....	$25\frac{3}{8}$	18 18 6
ditto	63....	$15\frac{7}{8}$	11 14 0	ditto	16....	$20\frac{3}{8}$	15 10 0
ditto	62....	$24\frac{1}{2}$	18 16 0	ditto	6....	$71\frac{3}{4}$	54 10 0
ditto	59....	$24\frac{1}{2}$	18 8 6	ditto	81....	$24\frac{3}{8}$	17 18 0
ditto	28....	$18\frac{5}{8}$	12 19 6	Berehaven....	126....	10	7 5 0
ditto	110....	$15\frac{1}{2}$	11 8 6	ditto	122....	$10\frac{1}{3}$	7 7 0
ditto	97....	$15\frac{3}{4}$	11 2 6	ditto	102....	$9\frac{7}{8}$	7 5 0
ditto	96....	$15\frac{3}{8}$	11 2 6	Knockmahon..	111....	9	7 1 6
ditto	44....	$24\frac{3}{4}$	18 10 0	Kapunda	34....	$44\frac{1}{2}$	34 8 0
ditto	37....	$23\frac{7}{8}$	18 6 6	ditto	25....	31	24 10 6
ditto	102....	$14\frac{1}{2}$	11 1 0	ditto	12....	41	32 10 0
ditto	80....	$15\frac{3}{4}$	11 6 6	ditto	11....	$52\frac{3}{4}$	41 5 6
ditto	76....	$15\frac{3}{4}$	11 6 0	Cuba.....	65....	$14\frac{7}{8}$	11 7 6
ditto	48....	$23\frac{1}{2}$	17 7 6	Port Lincoln..	42....	$22\frac{1}{2}$	17 0 0
ditto	35....	$23\frac{1}{8}$	17 16 6	Gloster Slag..	13....	$28\frac{1}{2}$	20 10 6

TOTAL PRODUCE.

Cobre	1429.....	£20,245 15 0	Cuba	65.....	£739 7 6
Berehaven ...	350.....	2,549 14 0	Port Lincoln	42.....	714 0 0
Knockmahon .	111.....	785 6 6	Gloster Slag	13.....	266 16 6
Kapunda.....	82.....	2,625 15 0			

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
English Copper Company.....	145.....	£1623 15 0
Freeman and Co.	111.....	785 6 6
Grenfell and Sons.....	261.....	3036 10 9
Sims, Willyams and Co.	468.....	7921 7 6
Vivian and Sons.....	338.....	3445 4 0
Williams, Foster and Co.	425.....	6508 19 3
Schneider and Co.	147.....	1723 15 0
Mason and Elkington.....	51.....	944 15 6
Low's Patent Copper Company	146.....	1938 1 0
Total.....	2092	£27,927 14 6

Copper Ores for sale 24th June.—Cobre, 94, 90, 73, 68, 56, 7, 5, 102, 100, 67, 15, 6—Berehaven, 127, 126, 80—Knockmahon, 108, 53—Kaw-aw, 58, 53—Waterloo Slag, 54, 10—Aberdovey, 30—Manx, 20, 3.—Total, 1402 tons (21-cwts.)

AVERAGES.

	Produce.	Price.	Standard.
British.....	10½.....	£7 12 0.....	£95 17 0
Foreign.....	20 3-16.....	15 0 6.....	85 11 6
Sale.....	18	£13 7 0	£86 15 6

Totals—British 474; Foreign 1618=2092 tons (21-cwts.)

AVERAGES OF LAST SALE.

	Produce.	Price.	Standard.
British	9	£6 11 0.....	£96 15 0
Foreign	16½.....	12 6 6.....	87 18 6
Sale.....	11½	£8 15 6	£92 3 0

Totals—British 1113; Foreign, 666=1779 tons (21-cwts.)

SILVER-LEAD ORE.

Biddings for 24 tons Silver-Lead Ore from Court Grange Mine.

Sold at Aberystwith on the 20th January, 1851.

Bidders.	Amounts Bid.
Newton, Keates and Co. [purchasers]	£17 5 6
Locke, Blackett and Co.	16 16 0
Mather and Co.	16 5 0
Sims, Williams, Nevill and Co.	17 5 0
Thomas Somers	14 0 0
Tamar Smelting Company	16 7 6
Walker, Parker and Co.	16 16 6

[In our statistical information we should have stated the quantity of ores from this mine, for the quarter ending Christmas, at 71 tons.]

THE TICKETINGS IN CORNWALL AND SWANSEA.

SIR,—In your Journal of the 15th inst. the reply to your correspondent (“W. M.,” Holywell), touching the ticketing of copper ores in Cornwall and Swansea, is given erroneously. The room is not “free to all intended purchasers,” unless they had given a month’s previous notice of such intention, and at the expiration thereof were declared admissible; this period being required by the sellers to ascertain the responsibility of the party desiring to offer. No parcel of copper ore can be withdrawn on the ticketing day, nor even on any previous day, if it had been sampled by the copper companies’ samplers. It can only be withdrawn from the *sampling* (which takes place three weeks before the ticketing). There have been a few instances of parcels withdrawn between the sampling and ticketing, on proof being afforded that after the sampling it was discovered that the ore contained other metal than copper.

HENRY BATH & SON.

Swansea, Feb. 24.

SWANSEA TICKETING.

SIR,—I have been informed, by a friend, that at a ticketing, which recently took place at Swansea, and at which two or three parcels of Chili copper regulus, which contained a portion of silver, was offered for sale, the Messrs. Nevill, of Llanelly, and the Messrs. Vivians, of Swansea, who have respectively processes adapted for the extraction of silver from such ores, offered £6 per ton for the silver, in addition to the value of copper which those parcels contained; and although Messrs. Nevill and Vivian offered to give Messrs. Williams, Foster and Co., their proportion of the copper out of the other ores sold at the same time, the Messrs. Williams would not consent to the proposition. The miner, therefore, had to sacrifice £6 per ton on his ores—viz., the value of silver they contained. Such is the manner in which the ticketings are conducted at Swansea. How long does the miner intend to submit to this sacrifice?

A MINER.

Feb. 26.

LEAD ORES.

Ticketings for 50 tons Silver-Lead Ore from Allt-y-Crib Mine.

Sold at Abersytwith, on the 8th August.

Bidders.	Amounts	Bid.
Walker, Parker and Co. (purchasers)	£11	6 0
Locke, Blackett and Co.	10	0 0
Newton, Keates and Co.	11	4 6
Sims, Willyams, Nevill and Co.	10	13 0
Tamar Smelting Company	9	17 0

Sold at the Mine, on the 11th of August.

Mines	Tons.	Price p. Ton.	Purchasers.
Wheal Mary Ann.....	84	£21 8 6 ..	Sims, Willyams & Co.
do	54	7 1 6 ..	Tamar Smelting Co.

Ticketings at the White Horse Hotel, Holywell, 14th August.

Maesyrrerwddu.....	81	£11 3 0 ..	Walker, Parker & Co.
ditto	18	12 18 6 ..	ditto
Coetia Llys	10½....	12 3 6 ..	Newton, Keates & Co.
Hendre.....	9	10 5 0 ..	ditto
ditto	9	10 5 0 ..	Walker, Parker & Co.
ditto	6	10 5 6 ..	Mather & Co.
ditto	4	8 8 0 ..	Newton, Keates & Co.
Deep Level	84	10 10 0 ..	ditto
Talacre	30	11 13 0 ..	ditto
Lloc	36	11 3 6 ..	ditto
Merilyn	35	11 1 0 ..	ditto
Bwlchgwyn	30	10 10 0 ..	ditto
Shallee.....	40	16 0 6 ..	Walker, Parker & Co.
ditto	4½....	14 0 0 ..	J. P. Eyton.

Sold at Douglas, Isle of Man, 14th August.

Newtonards.....	100	£10 5 6 ..	Sims & Co.
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Sold at the Mine.

Grogwinian.....	10	£10 6 0 ..	Newton, Keates & Co.
East Wheal Rose	37	14 16 0 ..	ditto
ditto	35	13 1 0 ..	R. Michell & Son.
ditto	18	12 1 6 ..	T. Somers.
Wheal Trelawny.....	98	19 9 0 ..	Tamer Smelting Co.
Tamar	43½....	18 7 6 ..	ditto
ditto	43½....	18 7 6 ..	Locke, Blackett & Co.

BLACK TIN.

Sold at Treloweth, on the 9th of August.

Mine.	Tons. c. qr. lbs.	Price per Ton.	Amount.	Purchasers.
Boscean....	2 3 3 24 ..	£52 5 0 ..	£114 17 1..	L. C. & W. Daubuz.

Mines.	Tons.	Price per Ton.	Purchasers.
Drakewalls	7	£51 5 0 ...	J. H. Enthoven & Co.
ditto	3½	42 5 0 ...	ditto

COPPER ORE.

Sampled July 23, and sold at Swansea, August 12, 1851.

Mines.	Tons.	Prod.	Price.	Mines.	Tons.	Prod.	Price
Cobre.....	100	.. 17	£12 15 0	Knockmahon .	50	.. 9½	£ 6 17 6
ditto	95	.. 17	12 13 6	Berehaven ...	124	.. 11½	8 13 0
ditto	92	.. 16½	12 13 0	ditto	84	.. 11½	8 11 6
ditto	51	.. 24½	18 1 6	Burra Burra..	47	.. 36½	28 12 6
ditto	49	.. 24½	17 18 6	ditto	45	.. 37	29 5 6
ditto	48	.. 24½	18 0 0	Kaw-aw	60	.. 15	10 18 6
Cuba	121	.. 14½	10 17 0	ditto	15	.. 8	5 5 6
ditto	80	.. 14½	10 9 0	Ballymurtagh	66	.. 4½	3 1 6
ditto	55	.. 22	15 18 6	ditto	5	.. 41	30 8 0
Knockmahon .	110	.. 8½	6 6 0	Tungkillo	3	.. 14½	11 0 0
ditto	61	.. 8½	6 0 0				

TOTAL PRODUCE.

Cobre	435	£6307 1 6	Burra Burra...	92	£2662 15 0
Cuba	256	3024 14 6	Kaw-aw	75	734 12 6
Knockmahon...	221	1401 10 0	Ballymurtagh..	71	354 19 0
Berehaven	208	1796 0 0	Tunckillo.....	3	33 0 0

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
English Copper Company	136	£1464 8 3
Freeman and Co.....	101	816 7 0
Pascoe, Grenfell and Sons.....	130	1291 13 0
Sims, Willyams & Co.	105	2345 5 0
Vivian and Sons.....	201	2148 17 0
Williams, Foster and Co.....	95	1204 2 6
Mines Royal.....	258	2138 10 0
Schneider and Co.....	50	637 10 0
British and Foreign Copper Company.....	123	2203 4 9
F. Bankart	162	2064 15 0
Total	1361	£16,314 12 6

Copper Ores for sale 26th August.—Berehaven, 125, 124, 103, 99, 25.—Santiago, 95, 90, 72, 52, 42, 45, 3, 2, 2, 1—Cobre, 77, 73, 60, 54, 50, 23—Cuba, 54, 43, 39, 35, 27, 22, 2—Montreal, 56, 52, 39, 38—Spanish, 64, 60—Kaw-aw, 58, 30, 26, 4, 1—Knockmahon, 99—Wallah Wallah, 9, 1.—Total, 1976 tons [21-cwts.]

AVERAGES.

	Produce.	Price.	Standard.
British	9 $\frac{3}{4}$	£ 7 3 6.....	£97 4 0
Foreign	19 $\frac{5}{8}$	14 14 0.....	86 7 6
	<hr/>	<hr/>	<hr/>
Sale.....	16	£11 19 6	£88 15 0
Totals—British 500 ; Foreign, 861 = 1361 tons [21 cwts.]			

AVERAGES OF LAST SALE.

	Produce.	Price.	Standard.
British	8 $\frac{1}{4}$	£ 6 6 0.....	£97 16 6
Foreign	22 $\frac{1}{2}$	16 18 0.....	85 5 6
	<hr/>	<hr/>	<hr/>
Sale.....	17 $\frac{1}{2}$	£13 1 0	£87 10 6
Totals—British, 912 ; Foreign, 1619 = 2531 tons [21 cwts.]			

[I.]

PROGRESS OF THE BRITISH MINING INTEREST.

A review of the course and progress of the mining interest of the United Kingdom, for the year 1850, will be found interesting. During the twelve months of 1850, there have been a number of new mines opened, and new speculations entered into, whilst, at the same time, the old mines have been brought more prominently into notice. The amount of capital now invested in these undertakings is immense, and the market must be considered as next in importance to that of railway shares. As compared with 1849 there is an increase on the dividends paid by the British mines during the present year of £27,829, and compared with 1848, of £84,546 ; the number of mines paying dividends being four more for this year than for 1849, and twenty-six more than in 1848. Whilst a few of the old mines have fallen off, the profits have been greater in others, and more generally diffused throughout the mining districts. The great prize of the year has been Alfred Consols, the shares in which have risen from £12 to £100 per 1,024th.

THE METAL TRADE—GOVERNMENT RETURNS.

From the monthly returns of the Board of Trade, we extract the following detailed account of the quantities of metals of home produce and manufacture, exported from the United Kingdom during the month ending 5th May, 1851, as compared with the same period of the two previous years :—

Metals.	1849.	1850.	1851.
Iron—Pig..... <i>tons</i>	16,358.....	19,566.....	24,307
Bar, bolt, and rod.....	33,925.....	43,863.....	48,860
Wire.....	283.....	347.....	377
Cast.....	957.....	2,130.....	1,806
Wrought of all sorts.....	10,440.....	14,644.....	13,982
Steel—Unwrought.....	535.....	1,078.....	1,034
Copper, in bricks and pigs..... <i>cwts</i>	8,622.....	13,726.....	9,520
Sheets, nails, &c. (including mixed or yellow metal for sheathing).....	16,579.....	16,064.....	18,600
Wrought of other sorts.....	1,996.....	973.....	1,740
Brass of all sorts.....	1,325.....	1,093.....	1,792
Lead..... <i>tons</i>	1,611.....	1,730.....	1,435
Tin—Unwrought..... <i>cwts</i>	2,175.....	3,493.....	1,486
Tin-plates..... <i>value</i>	£50,839.....	£80,960.....	£103,735

This important branch of business is thus shown to be fully maintaining its former activity, and even tending to a further augmentation. The aggregate declared value of all the metals comprised in the above table is £823,354 in 1851, £814,498 in 1850, and £653,925 in 1849. We have thus an increase of £8856 over last year, and of no less than £169,429, as compared with 1849. The returns for the four months present are of equally favorable comparison, the total amount being £3,021,713 this year against £2,780,810 in 1850, and £2,249,697 in 1849; showing an increase of £240,903 over 1850, and £772,016 over the previous year. Reverting to the various items in the month's returns, we find that nearly every one shows an increase over 1849, and a comparison with last year shows an increase in all the chief branches except copper and brass, the aggregate of which is £138,911 against £142,371 last year, and £120,484 in 1849. Iron of all kinds is declared at £512,839 against £506,892 in 1850, and £417,131 in 1849. Tin unwrought is still falling off, whilst the export of tin-plates continues to increase. Taking into consideration the circumstance that some other branches of our national industry, from causes easily explainable, show a slight decrease as compared with the same month in last year, at which period much activity prevailed, the continued upward movement obser-

vable in the metal trade is the more remarkable, and cannot fail to be regarded with satisfaction as an indication of prosperity to the metallic and mineral interests.

The exports of foreign and colonial produce for the month ending May 5 are as under :—

	1849.	1850.	1851.
Copper, unwrought and part wrought... <i>cwts</i>	4162.....	1060.....	2412
Iron, in bars, unwrought..... <i>tons</i>	231.....	167.....	103
Steel, unwrought.....	255.....	—.....	114
Lead, pig and sheet.....	226.....	215.....	588
Spelter.....	453.....	187.....	107
Tin, in blocks, ingots, bars or slabs.... <i>cwts</i>	370.....	254.....	212
Quicksilver..... <i>lbs.</i>	201,353.....	125,253.....	25,481

This branch of trade in most cases exhibits a decline; copper, however, is rallying, and the exports of foreign lead have been much larger this year. As scarcely any quicksilver has been imported this year, the falling off in the exports is easily accounted for.

The returns of the imports for the month ending May 5, are as follows :

Metals.	1849.	1850.	1851.
Copper ore and regulus..... <i>tons</i>	6485.....	5522.....	2269
Copper, unwrought and part wrought .. <i>cwts</i>	35.....	4180.....	2184
Iron, in bars, unwrought..... <i>tons</i>	888.....	1509.....	1127
Steel, unwrought.....	89.....	2.....	60
Lead, pig and sheet.....	512.....	971.....	1055
Spelter.....	758.....	1388.....	1430
Tin, in blocks, ingots, bars, or slabs.... <i>cwts</i>	424.....	1268.....	2848
Quicksilver..... <i>lbs.</i>	66,430.....	64,294.....	9207

These returns are very variable, but on taking the figures for the four months, as affording the best means of comparison, we find a very large increase in tin and spelter. Lead remains steady; whilst the import of copper is diminishing, and that of iron rather looking up.

From the Mining Journal.

From the Board of Trade returns we extract the exports and imports of metals for the month ending the 5th of November, 1850, as well as the corresponding month of last year. It will be seen from the sub-joined account, which refers to the exports of British and Irish produce and manufactures only, that the exports of copper have been on a rather larger scale than last year, whilst iron remains about the same. Lead has slightly fallen off, but in unwrought tin a considerable increase is to

be noticed, which is still more observable as contrasted with the same month in 1848, when the exports of this metal were only 1103 cwts. The returns of exports are—

EXPORTS.			
Metals.		1849.	1850.
Iron, pig	tons	9408.....	10727
“ bar, bolt, and rod...		28304.....	26715
“ wire		207.....	294
“ cast		894.....	1176
“ wrought, of all sorts.....		9899.....	9879
Steel, unwrought		642.....	898
Copper, in bricks and pigs	cwts.	11057.....	13082
“ sheets, nails, &c. (including mixed or yellow metal for sheathing)		20596.....	22549
“ wrought, of other sorts		1181.....	886
Brass of all sorts.....		2152.....	1832
Lead	tons	1805.....	1612
Tin, unwrought	cwts	1896.....	8903
Tin-plates—value	£	—.....	—

Of metals of foreign and colonial origin the exports, during the same month of 1849 and 1850, are as under :—

Metals.		1849.	1850.
Copper, unwrought and part wrought	cwts	—.....	740
Iron, in bars, unwrought.....	tons	556.....	789
Steel, unwrought		194.....	58
Lead, pig and sheet		90.....	71
Spelter		600.....	147
Tin, in blocks, ingots, bars, or slabs	cwts	456.....	141
Quicksilver	lbs.	86163.....	10291

The returns for the 10 months show that in the various articles coming under the head of metals and mineral produce, there has been an increase under most heads :—

	1848.	1849.	1850.
Iron, steel, hardware, &c.	£487,841.....	£598,467.....	£641,394
Copper and brass	111,848.....	152,755.....	162,319
Lead	7,617.....	32,134.....	27,042
Tin	37,477.....	62,569.....	67,438
Coals and culm	90,178.....	88,201.....	86,889
Salt and alkali	35,690.....	42,670.....	42,076
Earthenware	42,402.....	59,260.....	67,328
Glass	18,820.....	21,797.....	20,245
Total	£781,873	£1,052,853	£1,114,731

With the exception of spelter and tin, both of which exhibit a large

decrease, the returns of imports show that the introduction of foreign and colonial produce has greatly increased, especially of unwrought and partly wrought copper, of which the imports are nearly double those of the same month last year. The import returns are as follows :—

IMPORTS.		1849.	1850.
Metals.			
Copper ore and regulus (entered under Act 8 & 9 Vic., c. 90)	tons	—	—
Copper weight of metal		—	—
“ (entered under Act 11 and 12 Vic., c. 127, and previous resolutions)		3886	4471
“ unwrought and part wrought	cwts.	4441	8549
Iron, in bars, unwrought	tons	3234	3763
Steel, unwrought		291	2
Lead, pig and sheet		586	1051
Spelter		4179	1968
Tin, in blocks, ingots, bars, or slabs	cwts	5700	3516
Quicksilver	lbs.	477705	100161

Of articles coming into competition with our mining interests the imports have been as follows :—

	1848.	1849.	1850.
Brimstone	tons 1090	1425	1670
Barilla and alkali	4	155	253
Iron, in bars	3314	3234	3763
Steel	20	291	2
Lead	225	586	1051
Tin	44	28	175

Of other mineral produce the import has been—

	1848.	1849.	1850.
Copper ore, &c.	tons 1687	3886	4471
Zinc	1106	4179	1968
Saltpetre	2254	1557	2192
Quicksilver	—	215	48

[J.]

From an Occasional Correspondent.

MINING AND SMELTING.

NEW YORK, July 15th, 1851.

GENTLEMEN :—A notice in your paper of Thursday last, in reference to the remarkable success met with in delivering the ore of the Chester County Mining Company to competent hands for smelting and refining,

has induced me to re-inspect, with additional interest, the works of Mr. John Warwick, of this city, the individual referred to. These are in Harlem, eight miles distant, and set in a scene of quietude and beauty very different from that which we are accustomed to associate with any large mechanic operation. I have set down the word mechanic; but no one can pass over these works without being impressed with the large amount of intellectual skill that must be added to what is merely manual, in order to obtain from the rough ore the full yield; or without being impressed with the desirableness of uniting more intimately than has been thought of hitherto, those engaged in smelting with companies and private individuals, now engaged exclusively in bringing the ore to light. The proved facts from the smelting house, and not the eliminating process of the chemist in his closet, should be made the basis of all mining operations. Thousands have been led into ruinous undertakings by preferring the one to the other. Not that the furnace, in competent hands, will furnish the required yield, but that this competency is so rare. The works of Mr. Warwick possess the largest smelting, refining and reducing furnaces in this country. The two former take up, respectively, 2000 lbs. and 3000 lbs. weight of metal. The accuracy and the rapidity of the operation are not less noticeable than the variety of ores from different parts of the United States, successively acted on. *It is in the smelting house the mineral wealth of this country is discoverable.* To look upon the ore, which outwardly may present slight sign of its inherent value, is to see that there must be millions of millions' worth of such "earth" coating the surface of our States, and indicating untold riches beneath, unsuspected by the ploughman who passes over it with his share, and unvalued by the proprietor of "broad acres." Geology must yet become the first study of our schools; and the art of smelting and refining that to which those gifted with a superior order of mind, capable of working in detail, as well as perceiving at a glance general relations and dependencies, will, in the certainty of large profits, direct their attention. J. C.

From the Report of Dendy Sharwood, Esq., Superintendent of the Chester County Mining Company, 1st May, 1851.

The most satisfactory test of the value of a pile of ore, is undoubtedly

the yield of the smelting house ; and this test we shall be prepared to apply to our own ore in a few weeks from date. In accordance with instructions from the Board, I have, in conjunction with the other members of the committee appointed for that purpose, made the necessary arrangements for the erection of smelting and refining works. As this report will probably circulate among the stockholders, I would beg to be allowed to state the reason which induced the Board to accede to the recommendation of the committee, that Mr. Warwick's proposition for smelting and refining our ore should be accepted. It is well known in this neighborhood, and I may add, in Philadelphia and New York, (for bad news flies fast,) *that various attempts to smelt the ore had been made by the previous owners of the mine, all of which had failed.* Now, as precisely similar ore is smelted, (as a matter of course) every day in Wales, it is pretty evident the fault must have been in the smelters, and not in the ore. Fully convinced of this fact, your committee determined to have the ore smelted in the United States if possible ; and failing in that, to recommend its shipment to Europe, where it would meet a very ready sale. It would answer no good purpose to enumerate the failures of parties to reduce the ore, or rather to bring the yield to a fair approximate to the assay ; for really there has been no failure, but simply a difference of yield. Suffice it to say, that a parcel was sent to Mr. John Warwick, of Harlem, New York, for trial, and that in the presence of a member of the committee, he ran from his furnace forty-six pigs of lead, bringing the produce up to *within* a small per centage of the assay. The ore sent for trial, was that containing most phosphate (the objectionable ingredient.) The result of this trial was sufficiently satisfactory to the minds of your committee, to lead them to believe that the ore could be smelted in the United States, as well as elsewhere ; and also to induce them to recommend to the Board of Directors, that arrangements should be immediately made with Mr. Warwick to superintend smelting the ore, and extracting the silver. The result of the experiment, if experiment it can be called, will be known in a few weeks.

From the Report of James Tennent, President of the Chester County Mining Company, May 1st, 1851:—

“The Board of Directors, in submitting to the Stockholders the ac-

companying reports and plans, beg leave briefly to state, that the result of their operations at the Mine, since it came into the hands of the Company, has proved most satisfactory and gratifying, and that the situation and prospects of the Mine at the present time fully justifies the anticipation of ample returns for the investment made, within a reasonable time.

“It having been heretofore doubted by many whether the ores from these mines could be successfully smelted in this country, it is a gratifying fact that Mr. Warwick, of New York, has succeeded in his first trial in smelting several tons of the ore selected as the most difficult to smelt, bringing the yield of pure metal, up to within a small per cent. of the assay, in a furnace not adapted to smelting lead ores, and without having any slag to aid in the flux, which is very necessary in order to obtain the full yield of the ore.”



[K.]

IMPROVEMENTS IN OBTAINING PRODUCTS FROM ORES.

Mr. John Swindells (of the firm of Swindells and Williams, of Manchester, and Ince, near Wigan,) manufacturing chemist, has just specified his patent for certain improvements in obtaining products from ores, and other matters containing metals; and in the preparation and application of several such products for the purpose of bleaching, printing, dyeing, and color making.

The patentee's improvements consist—First, in obtaining metals and other products from ores containing copper and silver, or copper alone, from ores containing chromium, and from the ores of zinc. Secondly, in the application of some of these products to useful purposes, in dyeing, printing, and bleaching. In the case of ores containing copper and silver, the patentee places the roasted ore in water-tight vessels, and pumps on them a weak solution of ammonia, of about 980° sp. gr., until the ore is saturated; the whole is then covered up and allowed to remain from 12 to 24 hours, when the liquor is drawn off. The ammoniacal liquor will be found, on examination, to be saturated with oxide of copper, and if

any silver be present in the ore, the solution will also contain oxide of silver. The patentee next proceeds to the separation of these metals from the ammoniacal solution: for this purpose he prefers to use hydrochloric acid, or a solution of either of the muriates, to throw down the silver; and having removed the chloride of silver thus formed, he proceeds to separate the copper, by means of hydrosulphuric acid, or a solution of some hydrosulphuret. To separate the zinc contained in the ores of that metal, the patentee mixes sulphuret of zinc with about its own weight of either common salt or muriate of potash, or muriate of one of the alkaline earths, and calcines the mixture by an oxidising flame, with a slow protracted heat, until the sulphur of the ore is converted into sulphuric acid. He then dissolves out the salts produced by means of water. These salts consist of sulphate of soda, and muriates of zinc and iron, which the patentee separates in the usual way, by first obtaining the sulphate of soda and afterwards precipitating the oxides of iron and zinc by means of lime or other alkaline earths, and afterwards smelting the oxide of zinc in the ordinary way.

In the case of chromium, the patentee mixes the powdered ore with its own weight of either common salt or muriate of potash, or hydrate of lime. If a soda salt of chrome be required, the patentee uses common salt, and exposes the mixture in a reverberatory furnace to a full red, or even white heat, at the same time passing a jet of highly-heated steam over the mass, whilst in a state of fusion, well stirring the mixture every 10 or 15 minutes. When it is known by the usual method of testing the contents of the furnace that the process is finished, the resulting compound is found to consist of chromate of soda: the hydrochloric acid and iron having passed off in the form of sesqui-chloride of iron. The product is then withdrawn from the furnace, and treated in the usual manner of manufacturing the salts of chromic and bi-chromic acids. The chromates of potash and lime may be obtained in the same way, by the substitution of muriate of potash and lime for common salt. Bi-chromate and chlorochromate of soda may be prepared from the chromate of soda thus obtained, as also the double salts of chromate of lime and soda or potash.

The patentee claims:—1. The extraction of copper and silver from the ores containing those metals, by means of ammonia and ammoniacal salts. —2. The improved method of extracting metallic zinc from the native sulphuret of that metal, by washing the ore with common salt, or any

other salt containing muriatic acid.—3. The process of forming the salts of chrome, by operating on the ores of that metal, mixed with muriatic salts, and subjected to the action of steam.—4. The use or application of bi-chromate of soda, as a substitute for bi-chromate of potash, in dyeing, printing, and bleaching, when applied to such purposes.—5. The use or application of the chloro-chromates of soda, potash, or lime, as new compounds in dyeing and bleaching.—6. The compound salts of chromate of soda and lime, or chromate of potash and lime, for the purposes aforesaid, they being more economical and useful for the production of orange colors than the salts of chrome, hitherto in use for that purpose.

[L.]

ANTHRACITE COAL.

The most full and detailed statistics of coal, all the world over, which we have seen, are contained in a large octavo, by Mr. R. C. Taylor, recently published in Philadelphia, and illustrated with suitable maps. Mr. T. understands his subject, and those who are extensively engaged in the Coal or Iron trade would do well to consult his work. Pennsylvania anthracite covers 437 square miles.

Coal destitute of bitumen, is usually called anthracite, but might be termed asphaltic; it is embraced in a slate rock, and its chief localities are in Pennsylvania, as at Pottsville, Schuylkill Co., Mauch Chunk, Carbon county, Lackawanna, Wilkesbarré, and Carbondale, Luzerne county, Beaver Meadow, in Lehigh, and Shamokin in Northumberland. Anthracite is met with in the greatest quantity in sections of coal regions most accessible by water. At Pottsville, Mauch Chunk, Lackawanna, and Wilkesbarré, it is excavated in seemingly inexhaustible quantities and of good quality.

The quantity of anthracite shipped, or otherwise sent, from the several mines in Pennsylvania, in 1841, was 959,919 tons; 1,108,001 in 1842; 1,263,539 in 1843; 1,631,669 in 1844.

Taylor estimates the anthracite and bituminous coal raised in the United States, in 1847, at five millions of tons, the average value of

which, at *the place of consumption*, he estimated at twenty millions of dollars, or \$4 per ton. His statement of the product of anthracite in Pennsylvania, in 1845, is 2,023,052 tons; in 1846, 2,343,992 tons; and in 1847, 2,982,309 tons. He says, that in 1840, many persons made no official coal returns; that many of the returns made were below the truth, and that there are no official returns. In Britain it has been found very difficult to ascertain the extent of the domestic iron and coal trades.

Barton, in his useful sketch of the Lake trade, shows that 8,507 tons of Pennsylvania coal, brought by the Pennsylvania canals, were exported at Erie, Pa., in 1845, and that in 1846, the quantity shipped there had increased to 21,534 tons; Cleveland exported 858 tons, in 1846, to Canada, and 6,671 tons coastwise.

Boston received from Pennsylvania, of anthracite, in 1841, 11,938 tons—in 1842, 90,276 tons. In 1847, 1,454 tons of coal came to the Hudson via the New York canals; Cleveland, O., exported 8,131 tons via the Lakes. That year, via the Ohio Canal, 128,565 bushels of coal arrived at Chillicothe, over and above the quantity cleared; 38,851 do. at Circleville; 155,362 do. at Columbus; 101,382 bushels arrived at, and 395,690 cleared from Carroll; and 1,207,170 bushels cleared from Akron.

In 1835 there were shipped from Philadelphia, coastwise, 267,132 tons of coal; 344,812 in 1836; and in 1846, of Schuylkill coal, 883,489 tons, and of Lehigh 181,792 tons, in 1 ship, 25 barks, 476 brigs, 4,774 schooners, 1,113 sloops, 17 steamboats, 1,114 barges, and 1,150 boats. There passed through the Delaware and Raritan Canal to New York, 372,072 tons coal in 1845; 339,924 tons in 1846.

The American Quarterly Register estimates the supply of anthracite coal, from the Pennsylvania mines, at 2,800,000 tons in 1847. In 1819 there was no such trade; in 1820 it was first used as fuel on tide water, the quantity sent to market being just 365 tons! Now a single iron-making Company consumes 60,000 tons of anthracite and 100,000 tons of bituminous coals in a year. In 1812 and 1814, Hon. Charles Miner and Mr. Jacob Cist sent down a few tons of anthracite from Wilkesbarré to Philadelphia, in arks; but it was found very hard to persuade people that *stones* would burn.

Pennsylvania has over a thousand miles of canals and 700 miles of

railroads completed, which extends to the Coal and Iron mines, and are designed to connect the Lakes, the Ohio, and the Mississippi with Philadelphia and the Delaware. Her anthracite, in the mine, is worth only 35 cents per ton, on the average.

At Wilkesbarré, at the mouth of the coal pit, anthracite is worth \$1 per ton, and it costs 25 cents to deliver a ton into the boats; this gives, for coal 35 cents, mining 65, conveyance to boat 25, total \$1.25. At Pottsville, at the pit's mouth, the price is about \$1.75, add cost of carriage to boat 25 cents—value on board \$2. Pottsville, now the great mart of the coal trade, contained only five dwellings in 1824; it has now six churches, several manufactories, and 9,000 inhabitants. Mauch Chunk and Wilkesbarré have each a population of 3,800. Mr. Benjamin Haywood began business in Pottsville, making horse shoes and horse nails at his blacksmith shop. Now, he is the senior partner of two houses there, in machinery making and coal digging, which did over \$700,000 worth of business in 1846.

BITUMINOUS COAL.

From the State of Alabama to Pictou, Nova Scotia, the coal beds can be followed, in a north-east direction, for 1,500 miles; and from Richmond in Virginia, to Rock River in Illinois, they are continually crossed at right angles for about 800 miles. At Richmond the coal is bituminous—on the Alleghany belt it is anthracite.

Taylor states that the superficial bituminous Coal area of the United States is 124,735 square miles, east of the Mississippi river, and 8,397 miles west of the Missouri.

Western Pennsylvania has an abundance of bituminous coal; it is found on the rivers Conemaugh, Alleghany and Monongahela, and in many places west of the Alleghany ridge; it is plentiful near Pittsburgh. This coal is abundant in Tioga county, N. Y., on the Tioga and the Chemung, and differs little in appearance from the best Liverpool or Newcastle coal. The Mandan coal region, chiefly in Alleghany county, Pa., is 40 miles in length by 5, and 15 yards deep, containing over 6,300 millions of cubic yards of bituminous coal.

By the census returns for 1839–40, we find, that the quantity of

bituminous coal produced that year, in the Union, was 27,603,191 bushels, and that 3,768 men were employed, and \$1,868,862 capital invested : also, that \$4,355,602 of capital were invested in raising anthracite coal, of which 863,489 tons of 28 bushels each, were produced by the aid of 3,043 men. Of the anthracite 859,686 tons were the product of Pennsylvania, as also 11,620,654 bushels (415,023 tons) of the bituminous, of which latter coal, Virginia, in 1840, raised 10,622,345 bushels ; Ohio, 3,513,409 bushels ; Maryland 222,000 ; Kentucky 588,167 ; Indiana 242,040 ; Illinois 424,187 ; Missouri 249,302.

More than one-third of the area of Pennsylvania is covered by productive coal formations ; one-third of Kentucky, Ohio, and Virginia, is covered with coal strata ; Indiana has a fifth and Illinois three-fourths of her area occupied by carboniferous strata.

To show the relative value of the different varieties of coal, so far as regards the properties necessary for successful employment in our steam-marine, we annex a comparative statement from Professor Johnson's report to Congress :

Official Analysis of Anthracite and Bituminous Coal.

	Weight per cubic foot.	Cubic feet per ton.	Fixed carbon.	Bitumen or volatile matter.	Earthy matter.	Evapora- tive power.
<i>Anthracite.</i>						
Peach Mountain.....	53.78	41.64	89.	2.96	6.13	945
Lehigh	55.32	40.50	89.15	5.25	5.56	835
Forrest Improvement.....	53.66	41.75	90.75	3.07	4.41	940
Lackawanna	48.89	45.82	87.74	3.91	6.36	915
<i>Semi-Bituminous.</i>						
Neff's Cumberland	54.29	41.26	74.73	12.68	10.36	1000
Maryland Mining Co.....	53.70	41.71	73.50	12.31	12.44	914
Blosburg.....	53.05	42.22	73.11	14.75	10.77	908
Dauphin and Susq.....	50.54	44.32	74.28	14.75	11.49	—
<i>Bituminous.</i>						
Newcastle.....	50.82	44.08	57.	35.83	5.40	809
Liverpool	47.88	46.74	54.90	39.96	4.62	733
Sidney.....	47.44	47.22	67.56	23.80	5.49	747
Pictou	49.25	45.45	60.74	25.93	12.51	792
Richmond, Va.....	46.50	48.17	60.30	32.49	8.95	775
Cannelton, Ind.	47.65	47.01	58.44	34.	4.97	686

The anthracite contains a very small quantity of bitumen ; the semi-bituminous about four times as much as the anthracite ; and the bituminous too great an amount of volatile matter, causing it to cement in large masses. It is, therefore, too light to be used economically, except for very limited purposes. Where the greatest heat is required, the most

natural and speedy ignition, the semi-bituminous is decidedly superior to all others. The Cumberland, of which the supply is inexhaustible, is extensively used by our Ocean Steam Navigation Company, and those of Europe whose vessels touch at our ports, and by some of our most extensive railroad companies, in their locomotives. This coal corresponds with the Welsh, which is used by the British government, and by all the steamship companies in England.

The Phoenix Mining Company have bought 22,000 acres of the southern part of the Cumberland coal-field, on the Virginia side of the Potomac; their lands are level free; the miner will always stand on a dry floor; and large beds of iron ore are found beside the coal, which is bituminous and of excellent quality: many of our steamers use it in long voyages, and the Baltimore and Ohio Railroad Company run their engines with it. These Virginia mines will need no ventilators: Lord Brougham stated recently, in the house of peers, that from 700 to 800 lives are lost every year from the impossibility of making workmen use the safety-lamp. Extensive mines of a rich cannel coal are found in Kanawha county and in Coal river, western Virginia. A mine has also been met with in Arkansas.

Ohio is almost as rich in coal as Pennsylvania, but it is of the bituminous kind; the state seems to be full of it: its value for domestic and manufacturing purposes is incalculable. Professor Mather estimates the quantity of coal in Tuscarawas county alone at 80,000,000 bushels: the yield in eighteen counties, in 1848, was 6,538,968 bushels: the canals and railroads are making the Ohio coal beds much more valuable by lessening the cost of its transportation. Two counties, Meigs and Summit, produced 4,337,377 bushels, in 1848. "Probably a mean thickness of six feet of coal, capable of being worked over 5,000 square miles," constitutes the resources of Ohio.

AN ACT

To Authorise the Formation of Corporations for Manufacturing, Mining, Mechanical, or Chemical Purposes.

PASSED FEBRUARY 17, 1848.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:—

SECTION 1. At any time hereafter, any three or more persons, who may desire to form a company for the purpose of carrying on any kind of manufacturing, mining, mechanical or chemical business, may make, sign, and acknowledge, before some officer competent to take the acknowledgment of deeds, and file in the office of the clerk of the county in which the business of the company shall be carried on, and a duplicate thereof in the office of the Secretary of State, a certificate in writing, in which shall be stated the corporate name of the said company, and the objects for which the company shall be formed, the amount of the capital stock of the said company, the term of its existence, not to exceed fifty years, the number of shares of which the said stock shall consist, the number of trustees and their names, who shall manage the concerns of said company for the first year, and the names of the town and county in which the operations of the said company are to be carried on.

§ 2. When the certificate shall have been filed as aforesaid, the persons who shall have signed and acknowledged the same, and their successors, shall be a body politic and corporate, in fact and in name, by the name stated in such certificate; and by that name have succession, and shall be capable of suing or being sued in any court of law or equity in this State, and they and their successors may have a common seal, and may make and alter the same at pleasure; and they shall, by their corporate name, be capable in law of purchasing, holding and conveying any real and personal estate whatever which may be necessary to enable the said company to carry on their operations named in such certificate, but shall not mortgage the same or give any lien thereon.

§ 3. The stock, property and concerns of such company shall be managed by not less than three nor more than nine trustees, who shall respectively be stockholders in such company and citizens of the United States, and a majority of whom shall be citizens of this state, who shall, except the first year, be annually elected by the stockholders, at such time and place as shall be directed by the by-laws of the company; and public notice of the time and place of holding such election shall be published not less than ten days previous thereto, in the newspaper printed nearest to the place where the operations of the said company shall be carried on; and the election shall be made by such of the stockholders as shall attend for that purpose, either in person or by proxy. All elections shall be by ballot, and each stockholder shall be entitled to as many votes as he owns shares of stock in the said

company, and the persons receiving the greatest number of votes shall be trustees; and when any vacancy shall happen among the trustees, by death, resignation or otherwise, it shall be filled for the remainder of the year in such manner as may be provided for by the by-laws of the said company.

§ 4. In case it shall happen at any time, that an election of trustees shall not be made on the day designated by the by-laws of said company, when it ought to have been made, the company for that reason shall not be dissolved, but it shall be lawful on any other day, to hold an election for trustees, in such manner as shall be provided for by the said by-laws, and all acts of trustees shall be valid and binding as against such company, until their successors shall be elected.

§ 5. There shall be a president of the company, who shall be designated from the number of the trustees, and also such subordinate officers as the company by its by-laws may designate, who may be elected or appointed, and required to give such security for the faithful performance of the duties of their office as the company by its by-laws may require.

§ 6. It shall be lawful for the trustees to call in and demand from the stockholders respectively, all such sums of money by them subscribed, at such times and in such payments or instalments as the trustees shall deem proper, under the penalty of forfeiting the shares of stock subscribed for, and all previous payments made thereon, if payment shall not be made by the stockholders within sixty days after a personal demand or notice requiring such payment shall have been published for six successive weeks in the newspaper nearest to the place where the business of the company shall be carried on as aforesaid.

§ 7. The trustees of such company shall have power to make such prudential by-laws as they shall deem proper for the management and disposition of the stock and business affairs of such company, not inconsistent with the laws of this State, and prescribing the duties of officers, artificers, and servants that may be employed; for the appointment of all officers, and for carrying on all kinds of business within the objects and purposes of such company.

§ 8. The stock of such company shall be deemed personal estate, and shall be transferable in such manner as shall be prescribed by the by-laws of the company; but no shares shall be transferable until all previous calls thereon shall have been fully paid in, or shall have been declared forfeited for the non-payment of calls thereon. And it shall not be lawful for such company to use any of their funds in the purchase of any stock in any other corporation.

§ 9. The copy of any certificate of incorporation, filed in pursuance of this act, certified by the county clerk or his deputy, to be a true copy, and of the whole of such certificate, shall be received in all courts and places, as presumptive legal evidence of the facts therein stated.

§ 10. All the stockholders of every company incorporated under this act, shall be severally individually liable to the creditors of the company in which they are stockholders, to an amount equal to the amount of stock held by them respectively for all debts and contracts made by such company, until the whole amount of capital stock fixed and limited by such company shall have been paid in, and a certificate thereof shall have been made and recorded as prescribed in the following section; and the capital stock, so fixed and limited, shall all be paid in, one half thereof within one year, and the other half thereof within two years from the incorporation of said company, or such corporation shall be dissolved.

§ 11. The president and a majority of the trustees, within thirty days after the payment of the last instalment of the capital stock, so fixed and limit-

ed by the company, shall make a certificate stating the amount of the capital so fixed and paid in; which certificate shall be signed and sworn to by the president and a majority of the trustees: and they shall, within the said thirty days, record the same in the office of the county clerk of the county wherein the business of the said company is carried on.

§ 12. Every such company shall annually, within twenty days from the first day of January, make a report which shall be published in some newspaper published in the town, city or village, or if there be no newspaper published in said town, city or village, then some newspaper published nearest the place where the business of said company is carried on, which shall state the amount of capital, and of the proportion actually paid in, and the amount of its existing debts, which report shall be signed by the president and a majority of the trustees: and shall be verified by the oath of the president or secretary of said company and filed in the office of the clerk of the county where the business of the company shall be carried on; and if any of said companies shall fail so to do, all the trustees of the company shall be jointly and severally liable for all the debts of the company, then existing, and for all that shall be contracted before such report shall be made.

§ 13. If the trustees of any such company shall declare and pay any dividend when the company is insolvent, or any dividend, the payment of which would render it insolvent, or which would diminish the amount of its capital stock, they shall be jointly and severally liable for all the debts of the company then existing, and for all that shall be thereafter contracted, while they shall respectively continue in office.

Provided, That if any of the trustees shall object to the declaring of such dividend or to the payment of the same, and shall at any time before the time fixed for the payment thereof, file a certificate of their objection in writing with the clerk of the company and with the clerk of the county, they shall be exempt from the said liability.

§ 14. Nothing but money shall be considered as payment of any part of the capital stock, and no loan of money shall be made by any such company to any stockholder therein; and if any such loan shall be made to a stockholder, the officers who shall make it, or who shall assent thereto, shall be jointly and severally liable to the extent of such loan and interest, for all the debts of the company contracted before the repayment of the sum so loaned.

§ 15. If any certificate or report made, or public notice given, by the officers of any such company, in pursuance of the provisions of this act, shall be false in any material representation, all the officers who shall have signed the same, knowing it to be false, shall be jointly and severally liable for all the debts of the company, contracted while they are stockholders or officers thereof.

§ 16. No person holding stock in any such company, as executor, administrator, guardian or trustee, and no person holding such stock as collateral security shall be personally subject to any liability as stockholder of such company; but the person pledging such stock shall be considered as holding the same, and shall be liable as a stockholder accordingly, and the estates and funds in the hands of such executor, administrator, guardian or trustee, shall be liable in like manner and to the same extent as the testator or intestate, or the ward or person interested in such trust fund would have been, if he had been living and competent to act, and held the same stock in his own name.

§ 17. Every such executor, administrator, guardian or trustee shall represent the share of stock in his hands at all meetings of the company, and

may vote accordingly as a stockholder ; and every person who shall pledge his stock as aforesaid, may nevertheless represent the same at all such meetings, and may vote accordingly as a stockholder.

§ 18. The stockholders of any company organized under the provisions of this act shall be jointly and severally individually liable for all debts that may be due and owing to all their laborers, servants and apprentices, for services performed for such corporation.

§ 19. The Legislature may at any time alter, amend or repeal this act, or may annul or repeal any incorporation formed or created under this act ; but such amendment or repeal shall not, nor shall the dissolution of any such company take away or impair any remedy given against any such corporation, its stockholders or officers, for any liability which shall have been previously incurred.

§ 20. Any corporation or company heretofore formed, either by special act or under the general law, and now existing for any manufacturing, mining, mechanical or chemical purposes, or any company which may be formed under this act, may increase or diminish its capital stock by complying with the provisions of this act, to any amount which may be deemed sufficient and proper for the purposes of the corporation, and may also extend its business to any other manufacturing, mining, mechanical or chemical business, subject to the provisions and liabilities of this act. But before any corporation shall be entitled to diminish the amount of its capital stock, if the amount of its debts and liabilities shall exceed the amount of capital to which it is proposed to be reduced, such amount of debts and liabilities shall be satisfied and reduced so as not to exceed such diminished amount of capital ; and any existing company, heretofore formed under the general law, or any special act, may come under and avail itself of the privileges and provisions of this act, by complying with the following provisions, and thereupon such company, its officers and stockholders, shall be subject to all the restrictions, duties and liabilities of this act.

§ 21. Whenever any company shall desire to call a meeting of the stockholders, for the purpose of availing itself of the privileges and provisions of this act, or for increasing or diminishing the amount of its capital stock, or for extending or changing its business, it shall be the duty of the trustees to publish a notice signed by at least a majority of them, in a newspaper in the county, if any shall be published therein, at least three successive weeks, and to deposit a written or printed copy thereof in the post office, addressed to each stockholder at his usual place of residence, at least three weeks previous to the day fixed upon for holding such meeting ; specifying the object of the meeting, the time and place when and where such meeting shall be held, and the amount to which it shall be proposed to increase or diminish the capital, and the business to which the company would be extended or changed, and a vote of at least two-thirds of all the shares of stock shall be necessary to an increase or diminution of the amount of its capital stock, or the extension or change of its business as aforesaid, or to enable a company to avail itself of the provisions of this act.

§ 22. If at any time and place specified in the notice provided for in the preceding section of this act, stockholders shall appear in person or by proxy, in number representing not less than two-thirds of all the shares of stock of the corporation, they shall organize by choosing one of the trustees chairman of the meeting, and also a suitable person for secretary, and proceed to a vote of those present, in person or by proxy, and if on canvassing the votes it shall appear that a sufficient number

of votes has been given in favor of increasing or diminishing the amount of capital, or of extending or changing its business as aforesaid, or for availing itself of the privileges and provisions of this act, a certificate of the proceedings, showing a compliance with the provisions of this act, the amount of capital actually paid in, the business to which it is extended or changed, the whole amount of debts and liabilities of the company, and the amount to which the capital stock shall be increased or diminished, shall be made out, signed and verified by the affidavit of the chairman, and be countersigned by the secretary; and such certificate shall be acknowledged by the chairman, and filed as required by the first section of this act, and when so filed, the capital stock of such corporation shall be increased or diminished, to the amount specified in such certificate, and the business extended or changed as aforesaid, and the company shall be entitled to the privileges and provisions, and be subject to the liabilities of this act, as the case may be.

§ 23. If the indebtedness of any such company shall at any time exceed the amount of its capital stock, the trustees of such company assenting thereto shall be personally and individually liable for such excess to the creditors of such company.

§ 24. No stockholder shall be personally liable for the payment of any debt contracted by any company formed under this act, which is not to be paid within one year from the time the debt is contracted, nor unless a suit for the collection of such debt shall be brought against such company, within one year after the debt shall become due; and no suit shall be brought against any stockholder who shall cease to be a stockholder in any such company, for any debt so contracted, unless the same shall be commenced within two years from the time he shall have ceased to be a stockholder in such company, nor until an execution against the company shall have been returned unsatisfied in whole or in part.

§ 25. It shall be the duty of the trustees of every such corporation or company to cause a book to be kept by the treasurer or clerk thereof, containing the names of all persons, alphabetically arranged, who are or shall, within six years, have been stockholders of such company, and showing their places of residence, the number of shares of stock held by them respectively, and the time when they respectively became the owners of such shares, and the amount of stock actually paid in; which book shall, during the usual business hours of the day, on every day except Sunday and the fourth day of July, be open for the inspection of stockholders and creditors of the company, and their personal representatives, at the office or principal place of business of such company, in the county where its business operations shall be located; and any and every such stockholder, creditor or representative, shall have a right to make extracts from such book; and no transfer of stock shall be valid for any purpose whatever, except to render the person to whom it shall be transferred liable for the debts of the company, according to the provisions of this act, until it shall have been entered therein as required by this section, by an entry showing to and from whom transferred. Such book shall be presumptive evidence of the facts therein stated, in favor of the plaintiff, in any suit or proceeding against such company, or against any one or more stockholders. Every officer or agent of any such company, who shall neglect to make any proper entry in such book, or shall refuse or neglect to exhibit the same, or allow the same to be inspected, and extracts to be taken therefrom, as provided by this section, shall be deemed guilty of a misdemeanor, and the company shall forfeit and pay to the party injured a penalty of fifty dollars for

every such neglect or refusal, and all the damages resulting therefrom : And every company that shall neglect to keep such book open for inspection as aforesaid, shall forfeit to the people the sum of fifty dollars for every day it shall so neglect, to be sued for and recovered in the name of the people, by the district attorney of the county in which the business of such corporation shall be located ; and when so recovered, the amount shall be paid into the treasury of such county for the use thereof.

§ 26. Every corporation created under this act, shall possess the general powers and privileges and be subject to the liabilities and restrictions contained in title third of chapter eighteen of the first part of the Revised Statutes.

§ 27. This act shall take effect immediately.

State of New York, }
Secretary's Office. }

I have compared the preceding with the original law on file in this office, and do certify that the same is a correct transcript therefrom and of the whole of the said original.

C. MORGAN, *Secretary of State.*

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